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Head Injury Advisory Council

Bi-Annual Report

Fiscal Year 2001 & 2002

and

State Plan for Service Delivery

for Individuals with a Traumatic Brain Injury and Their Families

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Traumatic Brain Injury and
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Mission Statement

The Missouri Head Injury Advisory Council is appointed by the Governor to promote head injury awareness and prevention; and to review, study, and recommend policies to prevent traumatic head injuries; and to restore and optimize independent and productive lifestyles after traumatic head injury.

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Overview . . .

With rapid advances in medical technology and improved emergency medical and trauma systems persons with traumatic head or brain injuries are surviving who may not have lived twenty years ago. As a result, individuals and advocacy organizations, such as the Brain Injury Association, have advocated for improved systems of care to improve quality of life, prepare individuals with a traumatic head injury for future employability and independent living, and to deter secondary disability. The model service system promoted by professionals and advocates includes such service components as appropriate pre-hospital care, medical rehabilitation, long-term care, vocational rehabilitation, transitional and community supports, and service coordination, as well as prevention. Several initiatives have been undertaken by federal, state, and private programs to develop these services and to coordinate medical, educational, rehabilitation, vocational, mental health, and other service systems.

What is a Traumatic Brain or Head Injury?

Missouri has defined "head injury" or "traumatic head injury" as: *a sudden insult or damage to the brain or its coverings, not of a degenerative nature. Such insult or damage may produce an altered state of consciousness and may result in a decrease of one or more of the following: mental, cognitive, behavioral or physical functioning resulting in partial or total disability. Cerebral vascular accidents, aneurysms and congenital deficits are specifically excluded from this definition* (Section 192.735 RSMo).

This definition is very similar to the definition for traumatic brain or acquired brain injury in the federal TBI Act of 1996, as amended, and as defined by the Centers for Disease Control and Prevention (CDC). CDC estimates that two percent of the population is living with a traumatic brain injury based on hospital admissions data. In Missouri, over 6,000 individuals were hospitalized with a traumatic brain injury in 1998.

Individuals with a traumatic head injury or brain injury may require extensive services over an extended period of time. Although the injury is not always visible, it may cause physical, emotional, intellectual, social and vocational changes. TBI has a generalized effect in that the entire brain is affected to some extent, which is different from what occurs with a stroke, where a specific hemisphere or section of the brain is affected. The symptoms of head injury may vary greatly, depending on the extent and location of the injury. There are three types of impairments associated with head injury: physical, cognitive, and emotional. In Missouri, motor vehicle injuries account for almost half of the injuries reported with falls being the second most common cause of injury. Persons between the ages of 15-24 are overrepresented with regard to to the rate of injuries per 100,000. Males account for more than half the number of injuries.

Developing Services and Systems in Missouri

Efforts began in 1984 to identify the extent of traumatic brain injury in Missouri and the needs of individuals with traumatic brain injury and their families through public hearings conducted by the Missouri General Assembly. As the result of the hearings, funding to support systems planning through the Missouri Head Injury Advisory Council and for an array of rehabilitation and community services through the Missouri Department of Health began in 1985 and has been expanded through the years. In 1991, legislation passed establishing the Department of Health, now called the Department of Health and Senior Services, as the lead state agency for individuals with traumatic brain injury. Funding to the department supports an array of services and a system of service coordination for adults with traumatic brain injury who may not be eligible for such services from other state agencies. State funding is also appropriated to the University of Missouri-Columbia for rehabilitation services at the Missouri Rehabilitation Center. Legislation passed in 1988 expanding the state Medicaid program to include comprehensive day rehabilitation for individuals with traumatic brain injury as a state plan services. During the 2002 legislative session, a bill passed establishing a head injury trust fund to be administered by the Missouri Head Injury Advisory Council, Office of Administration for counseling and mentoring to families and short-term supports that are not be available through other state and federal programs.

Over the years, state agencies have provided training to better equip case managers/service coordinators and other professionals to better serve individuals with traumatic brain injury and their families seeking services through those agencies. Through funding from a federal TBI grant awarded to the Missouri Department of Health and Senior Services by the U.S. Health Resources and Services Administration, training was provided to case managers/service coordinators across state and local agencies on issues relating to brain injury and person centered planning (1997-2000). Grant funds have also been used to further expand and refine the system including outreach to minorities and developing training competencies for direct care staff. Other training opportunities are being developed for educators. The Department of Elementary and Secondary Education and the University of Missouri Center for Innovations in Special Education is developing a three part training curriculum for educators, of which workshops have been offered covering the first two modules to date.

In 1996, Congress passed the TBI Act authorizing funding for state demonstration grants to improve service delivery for individuals with traumatic brain injury and their families. The TBI Act was reauthorized in 2000, and included funding provisions for state protection and advocacy agencies. The Missouri Department of Health and Senior Services has received a federal grant since the implementation of the state grant program in 1997. The department also received a grant as the result of the Act from the Centers for Disease Control and Prevention to enhance surveillance from 1997-2001. The Missouri Protection and Advocacy Services, Inc. was awarded a TBI grant beginning October 2002 to expand services to include individuals with traumatic brain injury.

Highlights of FY 2001 & 2002. . .

During July 2000, the Missouri Head Injury Advisory Council held a planning meeting for purposes of reviewing status of projects and programs, and to set priorities for the upcoming fiscal year. The council invited the Brain Injury Association executive director and the president, other state agency representatives, providers, and service coordinators to participate. As a part of the planning process, the council reviewed current data from the Missouri Head and Spinal Cord Injury Registry, program expenditures of the Department of Health and Senior Services Head Injury Program, TBI provider locations, and other state initiatives addressing prevention and service delivery for individuals with disabilities. The council also reviewed the recommendations of the report issued in 2000 by the Missouri House of Representatives Interim Committee on Brain Injury, which had held public meetings during the fall of 1999. That report and recommendations from a council appointed Task Force on Children and Youth with TBI, 1998, and projects through the federal TBI implementation grant have shaped much of the direction of council activities throughout Fiscal Year 2001 and 2002, as well as previous years. These activities have focused on improved linkages among state programs, support and information for families with a newly injured family member, outreach to minority communities, and increased funding for community support and integration.

The Missouri Department of Health and Senior Services convened an interagency committee in 1999, which continues to meet, for purposes of coordinating state programs and policies, in keeping with the recommendations of the council. A subcommittee was formed to recommend how the state could incorporate telemedicine as a way to deliver services and how these types of services could be reimbursed. A data subcommittee was also convened to recommend how client and program data could be shared across agencies. The work of this committee was the basis for the TBI Post Demonstration grant submitted to the U.S. Health Resources and Services Administration in July 2001. The grant proposal was funded beginning October 1, 2001. Another post-demonstration grant was submitted by the Department of Health and Senior Services in July 2002 to continue the work of the previous grant to streamline application procedures of the various state programs and to develop a single application form.

Other resources were also made available to the council and the brain injury community by the University of Missouri-Columbia. The University of Missouri-Columbia received a five-year grant in 1997 from the National Institute of Disability Rehabilitation Research (NIDRR) to establish a Model System Center for TBI. The council also served as advisory to that project. The University collaborated with the Missouri Division of Vocational Rehabilitation to follow up with individuals with traumatic brain injury to study the impact of vocational rehabilitation services and employment outcomes. The University also implemented a project focusing on natural supports for individuals with traumatic brain injury. That project has reported the results of the study to the council and the

brain injury community at the council conferences and through publications. The University of Missouri-Columbia also administers a telerehabilitation project that trains mental health professionals in rural Missouri to better serve individuals with traumatic brain injury and overlaying mental health problems. The telerehabilitation project and list of trained professionals have been shared with both the head injury service coordinators and the regional centers developmental disabilities case managers as potential resources.

Also during this timeframe, the Governor appointed a commission September 1, 2000, to study and make recommendations for community alternatives as the result of the Olmstead Decision. The commission, Home and Community-Based Services and Consumer Directed Care, held public hearings and produced a report with recommendations for improving access, capacity, and choices for services and supports in the community for individuals with disabilities, as well as the elderly. The council director and members participated in the hearings, testified before the Commission, and participated on subcommittees that developed recommendations with regard to transitioning from nursing homes/institutions to community, training for service coordinators/case managers on choice, and expanding state capacity and policies to support community living. The new Governor, after taking office in January 2001, issued an Executive Order creating the Personal Independence Commission to oversee the implementation of the state plan developed by the first commission.

Legislation passed during the 2002 session establishing a head injury trust fund to be expended by the Missouri Head Injury Advisory Council "for the purpose of transition and integration of medical, social and educational services or activities for purposes of outreach and short-term supports to enable individuals with traumatic head injury and their families to live in the community, including counseling and mentoring the families." It is anticipated that this funding will provide, in part, counseling/support and follow-up to families with newly injured members who are in the hospital or receiving post-acute rehabilitation using trained volunteer families to provide information, support, and available resources to families to assist them in their caretaker role after acute hospitalization and rehabilitation. In addition, funding will be available for short-term or crisis situations to enable individuals to reside in the community, to return to work or school in lieu of nursing or institutional care. The funding will provide those supports that are not available through other state/federal programs due to eligibility issues such as diagnosis, age or income.

At the federal level, the TBI Act was reauthorized in 2000 and funding was appropriated to the U.S. Department of Health and Human Services, Health Resources and Services Administration for state grants to improve service delivery. It is from this federal act and subsequent appropriations that the Department of Health and Senior Services has received funding for Post Demonstration grants to improve service delivery. In order to be eligible, a state has to have a lead agency, state council, needs assessment and state plan. The Missouri Department of Health and Senior Services has received a grant each year since the beginning of the state grant program in 1997.

The reauthorization bill included funding for a national education and awareness campaign

regarding traumatic brain injury and for projects to reduce the incidence of such injury. The legislation also changed the definition of "traumatic brain injury" to include brain injuries caused by anoxia due to trauma with regard to prevention activities, clinical research, and state demonstration grants. Funding was appropriated to the Centers for Disease Control and Prevention to support uniform reporting of traumatic brain injury by states and to determine the incidence and prevalence of mild traumatic brain injury. Funding was authorized in 2000 for state protection and advocacy agencies to expand services to include people with traumatic brain injury. Grants have been awarded for the first time starting October 1, 2002, and the Missouri Protection and Advocacy Services, Inc., is one of the recipients

Projects and activities that the council in cooperation with partner agencies either initiated and/or completed include the following:

- *Project Sunshine*, a playground safety project conceived by the Missouri Head Injury Advisory Council, was completed and a program manual was developed by Central Missouri State University Safety Center with funding from the Missouri Department of Health and Senior Services. The project was piloted beginning October 2000, by the 4-H Clubs in central Missouri.

- Family packets were updated and the caregiver guide, initially developed by the Brain Injury Association with assistance from the Missouri Head Injury Advisory Council in 1990, was revised to a fifth grade reading level and reproduced. The Missouri Department of Health and Senior Services paid for the printing for an additional 10,000 packets to be distributed to hospitals, rehabilitation facilities, other programs, and families in 2001.

- The Department of Health and Senior Services submitted a TBI implementation grant proposal to the U.S. Health Resources and Services Administration and received funding for one year beginning October 1, 2000. The council served in an advisory capacity and the director of the council served as co-director for the project. Through funding from the TBI Implementation Grant, a contract was awarded to the Brain Injury Association to assume statewide responsibility for the Missouri Support Partner Program. The program was developed through funding from the 1997-2000 federal grant to develop programs in five sites in Missouri.

- Through funding from the TBI Implementation Grant, the Department of Health and Senior Services contracted with the University of Missouri Instructional Materials Lab to develop core competencies for direct care staff of community providers. The council and the department convened a focus group to assist with the project. This project was completed September 30, 2001, and is posted on both the Department of Health and Senior Services Head Injury Program and the Missouri Head Injury Advisory Council web sites.

- Through funding from the TBI Implementation Grant, the Department of Health and Senior Services contracted with the University of Missouri-Kansas City to assist with minority outreach and to develop a evaluation/outcomes for the state head injury program and support partner project. These projects were completed September 30, 2001.

- The Department of Elementary and Secondary Education and the Center for Innovations in Special Education, with assistance from the Research and Training Center in Community Reintegration, New York City, developed the first module for training educators in identifying children with traumatic brain injury and issues relating to education. Two workshops were held in the fall of 2000, two were held in the spring of 2001, and the second workshop series were held in 2002. The third, and last, module is being finalized with workshops scheduled for the spring of 2003.

- A resource manual for case managers/service coordinators is in the process of being developed by the council director and the Department of Health and Senior Services head injury program manager. This manual will be sent to case managers/service coordinators/ counselors designated by the various state programs (i.e. special health care needs, vocational rehabilitation, developmental disabilities, and aging). The council director also developed a section on traumatic brain injury for the case manager's manual developed by the Division of Mental Retardation and Developmental Disabilities.

- The council distributed fact sheets developed by the National Association of State Head Injury Administrators for individuals seeking emergency care as the result of concussions or mild head injury, who may not be hospitalized to all hospital emergency department managers.

- The Missouri Head Injury Advisory Council held its 16th annual statewide conference May 21-23 and the 17th annual statewide conference May 20-22 Jefferson City.

- The Department of Health and Senior Services and the Department of Social Services developed a TBI Home and Community Based Waiver, with input from the council and other agencies. However, since state funding was not appropriated for the state match, the application was not submitted to the Centers for Medicare and Medicaid Services (CMS) for approval.

- The Department of Health and Senior Services was awarded a post demonstration grant from the U.S. Health Resources and Services Administration beginning October 1, 2001, for purposes of establishing a single application form to use across state agencies and to share common data elements. The council served in an advisory capacity and the director of the council served as co-director. To continue the initial work of that project another grant was submitted by the Department of Health and Senior Services in July 2002. That project, which also focuses on early linkages at the time of hospitalization, was awarded effective October 1, 2002. The e-government inititative also included the head injury project as a pilot project for developing a data dictionary and other necessary infrastructure for agencies to share data electronically.

- The Missouri General Assembly passed legislation establishing a head injury fund to be administered by the Office of Administation and the Missouri Head Injury Advisory Council for purposes of providing family counseling and mentoring and short-term supports to enable community reintegration. The fund is to be established from a $2 surcharge to all criminal violations.

Historical Highlights . . .

- **1984**--The Missouri General Assembly convened a Joint Interim Committee on Head Injury and issued a report with recommendations
- **1985**--The Missouri Head Injury Advisory Council was created by way of Executive Order
- **1985**--The name and mission of the State Chest Hospital was changed to the Missouri Rehabilitation Center, Mt. Vernon, and state funding was appropriated for transitional living rehabilitation.
- **1985**--State funding was appropriated to the Missouri Department of Health to contract for head injury services in the community beginning Fiscal Year 1986.
- **1986**--Legislation passed creating the Missouri Head and Spinal Cord Injury Registry and the Missouri Head Injury Advisory Council statutorily.
- **1987**--Legislation passed establishing a state system of trauma care.
- **1988**--Legislation passed establishing comprehensive day rehabilitation services as a state plan service under the Medicaid program.
- **1989**--The Centers for Disease Control (CDC) approved a four-year grant to the Missouri Department of Health for the department to establish a state injury control program.
- **1990**--The first head injury guide for families (10,000 copies) was produced by the Missouri Head Injury Foundation with assistance from the council.
- **1990**--Congress passed P.L. 101-476, Individuals with Disabilities Education Act (IDEA), which added traumatic brain injury as a separate category within the definition of disabilities and requires school districts to report the number of students with traumatic brain injuries.
- **1991**--The Missouri General Assembly passed legislation establishing a head injury division in the Department of Health.
- **1991**--The Missouri Department of Health received a three-year grant from Centers for Disease Control to prevent primary and secondary disabilities, which provided funding for central office staff to develop a plan for case management and to evaluate the head and spinal cord injury registry.
- **1992**--The Missouri Rehabilitation Center opened a substance abuse program, C-STAR (Comprehensive Substance Treatment and Rehabilitation) for persons with head injury which is certified and funded by the Missouri Division of Alcohol and Drug Abuse and the Medicaid program administered by the Division of Medical Services.
- **1992**--The Missouri General Assembly appropriated state funding to the Department of Health for service coordinators/case managers for FY'93.

- **1993**--The National Conference of State Legislatures developed a publication, *What State Legislators Need to Know About Traumatic Brain Injury*, which referenced the Missouri Head Injury Advisory Council and several Missouri initiatives.

- **1996**--The Missouri General Assembly passed legislation transferring the Missouri Rehabilitation Center from the Missouri Department of Health to the University of Missouri-Columbia Hospitals and Clinics.

- **1996**--President Clinton signed the TBI Act to expand studies and establish innovative programs. Congress appropriated funding to U.S. Health Resources Services Administration for state demonstration grants; to Centers for Disease Control and Prevention for surveillance projects; and to National Institutes of Health for research; and a national consensus conference.

- **1997**--The U.S. Health Resources Services Administration awarded the Missouri Department of Health and Senior Services a three-year implementation grant, as the result of the TBI Act, to enhance the service delivery system. The Missouri Department of Health and Senior Services also received a grant from Centers for Disease Control and Prevention to enhance head injury surveillance as the result of the TBI Act.

- **1998**--The University of Missouri-Columbia received funding from NIDRR (National Institute on Disability and Rehabilitation Research) to establish a TBI Model System, one of 12 new projects funded in addition to the five initial model system projects funded in 1987.

- **1999**--The Missouri House Interim Committee on Head Injury held public hearings and advocated for increased funding.

- **2001**--The Missouri Department of Health and Senior Services received a fourth year of funding from the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau to study outreach to minority communities, develop core competencies for direct care providers, and other projects.

- **2001**--The Missouri Department of Health and Senior Services received a Post Demonstration grant from the U.S. Health Resources and Services Administration to develop a single intake form and improve data collection among the state agencies.

- **2002**--The Missouri General Assembly passed legislation establishing a head injury fund.

- **2002**--The Missouri Department of Health and Senior Services received a Post Demonstration grant from the U.S. Health Resources and Services Administration to improve early linkages to services at the time of hospitalization.

- **2002**--The Missouri Protection and Advocacy Services received a grant from the U.S. Health Resources and Services Administration to expand advocacy services to individuals with traumatic brain injury.

About Traumatic Brain Injury and Services in Missouri . . .

Background

Since the creation of the council in 1985, the Missouri Head Injury Advisory Council has made various recommendations for improving, coordinating and establishing services for individuals with traumatic brain injuries (TBI) and their families. These recommendations have been made in recognition that it has been difficult for persons with traumatic brain injuries to obtain rehabilitation/therapies, long-term care and community support services from various state agencies due to eligibility requirements, availability of funding, and availability of service providers experienced in providing services to persons with a traumatic head injury. For persons who do have insurance or another third-party payer they often find that their third-party coverage does not apply to care beyond acute hospitalization and rehabilitation.

During the past seventeen years, many of the council recommendations have been implemented through legislation directing policy and establishing funding to support an infrastructure for providing or purchasing the array of rehabilitation and community support services individuals with traumatic brain injury and their families may need. The council has also sponsored annual conferences and regional workshops to assist professionals, providers and families in understanding the state of art in rehabilitation and service delivery, as well as resources which may be available. In more recent years, federal grants from the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau to the Missouri Department of Health and Senior Services have provided opportunities to improve and enhance the service delivery system to reflect person centered planning, to address the need to support families at the time of hospitalization, develop outcomes/evaluation criteria for the state head injury program, develop core competencies for direct care staff, to develop strategies and materials for outreach to minority communities, and to develop single application form and sharing of demographic data across state service agencies.

The approach the council has taken to over the years to plan for a comprehensive services delivery system is as follows:

1) Define/identify individuals with traumatic head injury who may need services.

2) Define/assess services needed.

3) Identify gaps in current state service delivery system.

4) Expand and coordinate existing state and private services.

5) Develop distinct services not otherwise provided by existing state or private agencies.

Defining TBI

One of the first projects of the council was to develop a state definition for head injury or traumatic head injury in order to create a hospital reporting system for surveillance. Legislation passed in 1986 which included the definition. This definition is also used for eligibility for services provided by the Missouri Department of Health and Senior Services Head Injury Program. The state definition is similar to the definition for brain injury included in the federal TBI Act of 1996 and used by the Centers for Disease Control and Prevention for surveillance and the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau to administer the federal TBI state grant program. Traumatic brain injury is defined in 192.735 RSMo as a:

> "sudden insult or damage to the brain or its coverings, not of a degenerative nature. Such insult may produce an altered state of consciousness and may result in a decrease of one (1) or more of the following: mental, cognitive, behavioral or physical functioning resulting in partial or total disability. Cerebral vascular accidents, aneurysms and congenital deficits shall be specifically excluded from this definition."

Identifying individuals with TBI

In order to plan for service needs the council believed the state needed a method for determining the extent of head or brain injury in Missouri. The council members who were also state legislators passed the legislation creating the Missouri Head and Spinal Cord Injury Registry in 1986. By law, this data is to be reported to the council. This information is used to support prevention efforts, as well as to plan for service needs.

Incidence

The Department of Health and Senior Services collects information annually from the Missouri Head and Spinal Cord Injury Registry and hospital discharge data to determine the extent of injury in Missouri, the effectiveness of laws and prevention programs, and to assess the delivery of emergency medical services, hospital care and treatment. The information from the registry is reported as aggregate information and provides the incidence of traumatic brain injury each year with regard to those who are hospitalized.

According to the registry data, in 1998, 6,246 Missourians were either hospitalized or died (1,528) of a traumatic head injury (115 injuries per 100,000 population). Of those:

- √ Almost half (47%) were injured as the result of motor vehicle crashes;
- √ falls were the second leading cause (29%);
- √ followed by assaults (8.7%);
- √ self-inflicted (5.7%); and
- √ other (8.5%).

Falls occur primarily among age 65 and over (17%), yet that age group makes up 14% of the general population. Most of the injuries in this age range are due to falls and motor vehicle crashes. Of those in that age group who incur a fall, 34% fall at home. With regard to race 86% were white (113 per 100,000) and 12% Afro- American (117 per 100,000). More than half (3,853) of those who sustained a traumatic head injury were males. Age at the time of injury:

1-14 years of age -- 12.1%
15-25 years of age -- 21 %
25-44 years of age -- 26.6%
45-64 years of age -- 15.2%

Using preliminary hospitalization and mortality data collected from 12 states (Alaska, Arizona, Sacramento County [California], Colorado, Louisiana, Maryland, Missouri, New York, Oklahoma, Rhode Island, South Carolina, and Utah) during 1995-1996, the Centers for Disease Control and Prevention reported the following:

- The average TBI incidence rate (combined hospitalization and mortality rate) is 95 per 100,000 population. Twenty-two percent of people who have a TBI die from their injuries.
- The risk of having a TBI is especially high among adolescents, young adults, and people older than 75 years of age.
- For persons of all ages, the risk of TBI among males is twice the risk among females.
- The leading causes of TBI are motor vehicle crashes, violence, and falls. Nearly two-thirds of firearm-related TBIs are classified as suicidal in intent.
- The leading causes of TBI vary by age: falls are the leading cause of TBI among persons aged 65 years and older, whereas transportation leads among persons aged 5 to 64 years.
- The outcome of these injuries varies greatly depending on the cause: 91% of firearm-related TBIs resulted in death, but only 11% of fall-related TBIs are fatal.

Prevalence

The Centers for Disease Control and Prevention has determined that 2 percent of the population is living with a traumatic brain injury. This is based on hospitalizations and does not take into account those with "minor" or less severe injury that are not hospitalized. In Missouri, this means that 109,370 Missourians *are living* with a traumatic brain injury (based on 1999 population of 5,468,338).

Trends

According to the Centers for Disease Control and Prevention, nationally, there was a 22% decline in the TBI-related death rate from 24.6/100,000 U.S. residents in 1979 to 19.3/100,000 in 1992. Firearm-related rates increased 13% from 1984 through 1992, undermining a 25% decline in

motor vehicle-related rates for the same period. Firearms surpassed motor vehicles as the largest single cause of death associated with traumatic brain injury in the United States in 1990, while in Missouri, traffic crashes have continued to be the reported leading cause of traumatic brain injury.

The CDC data suggest that efforts to prevent traumatic brain injury due to motor vehicles have been successful while efforts to prevent such injuries due to firearms have not. CDC also believes that recent data showing a decline in rates of hospitalization for less severe TBI may be due, in part, to changes in hospital admission criteria. The lower TBI incidence rate reported more currently by CDC may be due to a decline in brain injuries, but also may be due to the counting methods which capture only hospitalized and fatal cases. (Traumatic Brain Injury in the United States: *A Report to Congress,* Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, December 1999).

Discussion

Concerned with what appears to be overrepresentation among the elderly with regard to injuries, the council voted to establish a task force to recommend strategies for reducing injuries among seniors. The council has also recommended that counties showing over representation of injuries be furthered studied to determine possible interventions for reducing injuries. The newly formed Office of Planning, Evaluation and Injury Prevention, Division of Maternal, Child and Family Health, Department of Health and Senior Services, through its advisory committee is undertaking a project to gather information on a county basis and address effective prevention interventions. The plan is to issue a Injury Report Card to educate the public about the extent of injuries in Missouri and the impact of such injuries.

Identifying Individuals with TBI Receiving State Services

The council early on (1986), with the assistance of state agencies, completed a survey of individuals with traumatic brain injury receiving services through the state habilitation and regional centers (and community agencies), state psychiatric hospitals, nursing homes and through home health care agencies. The purpose of this survey was to determine the number of individuals receiving state services, the type of services provided, and other services that these individuals may have needed. Since then, agencies have provided numbers served as requested for the council, as well as other policy makers. However, this information is often difficult to determine due to several factors.

State departments/agencies manage data systems necessary for such purposes as billing, client records, federal reporting requirements, statistical reporting and/or for purposes of determining incidence of diseases, injuries or other conditions. The data is often difficult to link due to different client identifying numbers, confidentiality requirements, lack of diagnostic information and so forth.

Accurate information regarding individuals with traumatic brain injury and services provided, without duplication, is often difficult to obtain from the different agencies. State agencies, as best as can be determined, have reported the numbers listed below.

Reported Numbers Served:

Department of Health and Senior Services, Adult Head Injury Program:

Fiscal Year (state) 2002	522
Fiscal Year (state) 2001	443
Fiscal Year (state) 2000	450
Fiscal Year (state) 1999	535

Department of Mental Health (department wide)

Fiscal Year (state) 2001	526

Department of Social Services, Division of Medical Services (Medicaid)

Comprehensive Day Rehabilitation Service:

2000*	127
Fiscal Year (state) 1999	162**
1998*	149

**Calendar Year*

***Taken from House Report of the Interim Committee on Head Injury, 1999*

Department of Elementary and Secondary Education, Division of Vocational Rehabilitation

Fiscal Year (federal) 2000*	1,166
Fiscal Year (federal) 1999*	1,168

**Federal Fiscal Year Ending September 30*

Department of Elementary and Secondary Education, Division of Special Education (public school reporting TBI as receiving special education services):

2000*	341
1999*	308
1998*	292
1997*	287
1996*	267

**Calendar Year*

Discussion

While a significant number of individuals are reported as hospitalized with a traumatic brain injury and the prevalence of brain injury is reported to be two percent of the population, relatively few of these individuals are receiving services through state agencies. It is recognized that there may be individuals receiving services that have not been identified as traumatic brain injury. Also, services that are available may not always meet the needs of individuals, thus individuals with traumatic brain injury may not seek state supports. However, an ongoing dialogue has been how to better identify individuals and to link them to services that are designed to meet their specific needs at the time of hospitalization or time of need.

Other discussions among state departments, in recent years, has been how to link some of the department data systems in an attempt to better coordinate services through case management/service coordination systems and to better understand the use of state services by individuals with traumatic brain injuries and their families. There have been attempts and small projects linking the Missouri Head and Spinal Cord Injury Registry and Hospital Discharge data with the Medicaid data administered by the Missouri Division of Medical Services to determine the numbers of individuals with traumatic brain injury receiving Medicaid. These projects have required special runs or programs and are not ongoing. When requested, state departments have identified clients served a number of ways: either clients served have a primary diagnosis of traumatic brain injury and are coded for brain injury in the database, or by converting DSM-IV codes to ICD-9 codes in order to determine traumatic brain injury or by manually reviewing client records.

The 1999 House Interim Committee on Brain Injury in its report also agreed that a data system needs to be developed across state agencies in order to facilitate improved communication across departments. The Interim Committee believed that the data system would minimize and/or eliminate errors, which could occur in the application/eligibility process, and improve record-keeping statistics with regard to the numbers of persons receiving services and the types of services provided, and facilitate the development of outcomes measures for persons with traumatic brain injury.

Since 1999, an interagency committee, including the director of the Missouri Head Injury Advisory Council, and the program manager for the Department of Health and Senior Services Head Injury Program, has been meeting regularly to further work on interagency policy coordination. A subcommittee was formed to evaluate the capabilities of developing a single client profile or intake form for individuals with traumatic brain injury that would be used and accessible by all appropriate agencies. This would allow families to only complete one form with regard to background information, build in an automatic referral process, and provide overall information to policy makers on the resources that may be utilized by individuals with traumatic brain injuries. Subsequently, the department and the council submitted a grant proposal to develop a single in-take application to the U.S. Health Resources and Services Administration in July 2001. The grant was approved and activities began in October 2001 to address these issues.

Defining Services Needed

Over the years, the Missouri Head Injury Advisory Council, with input from families, survivors, providers and other agencies, has defined a service delivery system model addressing all of the service components including: prevention, emergency medical and pre-hospital care, acute care, rehabilitation, case management/service coordination, employment, education, housing, long-term care and community support services. The council in the beginning defined services and organized them into the categories that are similar to both the medical/health care community and the mental retardation/developmental disabilities service delivery system. In 1999, the council assisted the Department of Health and Senior Services, Head Injury Program in redefining services provided by the department to enhance community and in-home support services and to be consistent with similar services provided or purchased by other agencies. For example, the functional rehabilitation program name was changed to that of comprehensive day rehabilitation, which is the name used by the Missouri Division of Medical Services for the same type of service, only funded by Medicaid.

During the summer of 1999, the council invited the Department of Health and Senior Services head injury services providers to a planning meeting to discuss how the system could be redesigned to reflect person centered planning. The department revised the provider manual to reflect not only new service descriptions, but incorporated person centered planning as the approach to service delivery. The department now requires individuals seeking services to do so through the designated Department of Health and Senior Services head injury service coordinator, who will not only help in determining eligibility for services, but for facilitating planning directed by the individual with traumatic brain injury with assistance from the family member(s), other supports, and rehabilitation or community providers as appropriate. This process involves both short-term and long-term planning in order to achieve the overall goal of returning to school/work and living in the community.

Part of the challenge of providing adequate care and support for persons who sustain a traumatic head injury is the diversity of needs after injury. Post-injury needs can range from full time care to community re-integration. The order in which services are used can also vary; some people will move from acute medical care into community integration, while others may require extended periods of nursing or rehabilitative care. Thus, services must be flexible, but also allow for the most frequent progressions in order to achieve short-term and long-term goals set by the individual with support, as needed, by family, friends, community, service coordinator(s), and providers.

Trends

The data from the Model Systems National Database on rehabilitation lengths of stay from 1993 to 1998 shows that acute care and rehabilitation length of stay has diminished. The patients are more impaired when they come to rehabilitation and their length of stay is shorter. Consequently, when an individual leaves acute rehabilitation, they are more dependent than at the completion of rehabilitation ten years ago. Given the changing medical environment, part of the struggle for the state in providing rehabilitation services is determining at what point in time should the individual receive rehabilitation services, what should the expected outcomes be, and how can the services be delivered

so to ensure that skills learned are transferred once the individual returns home. The revised Department of Health and Senior Services Provider Manual allows for instances in which individuals may not be "ready" for a comprehensive day rehabilitation program, but could benefit from some assistance in their home to aid in their recovery. This in-home service would also help provide some assistance in relearning skills of daily living for individuals preparing to live independently after receiving extensive rehabilitation services.

In June 1999, the Supreme Court ruled in L.C. & E.W. vs. Olmstead that it is a violation of the Americans with Disabilities Act for states to discriminate against people with disabilities by providing services in institutions when the individual could be served more appropriately in a community-based setting. States are required to provide community-based services for persons with disabilities if treatment professionals determine that it is appropriate, the affected individuals do not object to such placement and the state has the available resources to provide community-based services.

The 1999 Supreme Court "Olmstead Decision" encouraged state policymakers to develop plans for serving more people with disabilities in the community and for reducing waiting lists for community-based services. A number of federal grants have been made available to assist states in developing changes in the delivery systems. In Missouri, the Olmstead Decision has resulted in coalitions, both formal and informal, to examine and recommend systems that offer individuals with disabilities choices for community-based services and supports. The Olmstead Stakeholders group and the Governor's Commission on Home and Community-Based Services and Consumer Directed Care in their recommendations have recognized that systems need to be flexible and accessible to all individuals with disabilities, and that resources need to be available to avert inappropriate nursing home or institutional placement. Missouri state departments have received various grants including Ticket to Work and Grant for Community Living-Real Choice Systems Change to increase access to community-based services and employment.

Assessing service needs

Individual Needs

Through the years, the council in cooperation with the Department of Health and Senior Services, the Brain Injury Association of Missouri, and other agencies have surveyed individuals either currently receiving services or who are not receiving services. This has been accomplished through surveys, public forums, and through meetings held by the Brain Injury Association. In 1999, a Missouri House of Representatives Interim Committee on Head Injury held four public hearings throughout the state. A total of 69 persons testified before the committee; 21 persons were family members, relatives or friends of individuals with a traumatic brain injury; 32 persons were medical professionals, administrators, program officials or services coordinators; 15 persons were survivors of a traumatic head injury and one person represented the Missouri House of Representatives. Families and individuals experiencing traumatic brain injury identified issues and problems encountered when seeking state services such as the following:

- Social and behavioral problems (lack of resources)
- Need for increased educational awareness of traumatic brain injury for educators, physicians and families
- The misdiagnosis of traumatic brain injury and secondary characteristics
- Lack of alternative housing arrangements for persons with traumatic brain injury
- Questionable standards of care for persons who are placed in nursing homes
- Transportation problems particularly in rural communities and isolated areas
- Need for greater service coordination
- Lack of home and community-based services in certain areas
- Problems with Medicaid spend-down requirement
- Need for increased funding for services

Service providers, service coordinators, program administrators and medical professionals also spoke to the need for increased funding, including the need for a Medicaid TBI Home and Community-Based Waiver and a Brain Injury Trust Fund. In addition to the issues/needs described above, these individuals addressed the following issues:

- Need for long-term care programs
- Problems with a change in the prior authorization requirement by the Department of Health and Senior Services
- Increasing incidence of traumatic brain injury experienced by newborns
- Need for telemedicine in rural areas

With the addition of head injury service coordinators throughout the state, the Department of Health and Senior Services Head Injury Program has the capability of assessing the individual needs of those seeking services. In 1999, the department surveyed those who were receiving services, including service coordination, with regard to consumer satisfaction. Those surveyed listed the following as their priorities (listed in order of importance):

- Help planning realistically for their future
- Help getting out and having fun that is good for me
- Help accepting what happened to me
- Relief for my family from worrying about taking care of me
- Help getting more ready to live on my own
- Help managing some behaviors
- Provide transportation to my rehabilitation program
- Help getting ready to work or to go to school
- Other (29%)
- I'm doing all right, I need nothing from the program (14%)
- Nearly 70% believed that the service coordinator was available when needed.

Identifying gaps in service delivery

Availability of Services/Providers

Developing expertise and access to services throughout the state has been an ongoing effort since the beginning of state funding for programs and services. In 1985, the legislature changed the name and mission of the State Chest Hospital, Mt. Vernon, to the Missouri Rehabilitation Center and appropriated state funding for transitional living services. The Missouri Rehabilitation Center has added other services over the years as needs have been identified and funding has become available. (The Missouri Rehabilitation Center is currently operated by the University of Missouri-Columbia). The state appropriation to the Department of Health and Senior Services has also led to the development of rehabilitation and community support services specifically for individuals with traumatic brain injury. The program began with eight providers in 1985 and now has 60 providers enrolled in the program. (See map on page 12 for distribution of services.) The Medicaid program has also enrolled providers to deliver comprehensive day rehabilitation services for individuals with traumatic brain injury. However, overall, services are not equally distributed throughout the state.

The Missouri Model Brain Injury System, University of Missouri-Columbia, conducted a survey of the availability of health and allied health providers in rural areas and issued a report in August 2000. Data indicated that there is a scarcity of rehabilitation professionals (i.e., physiatrists, mental health providers, rehabilitation therapists), hospitals offering comprehensive rehabilitation therapies and services in rural areas. The University of Missouri Health Sciences Center indicates that two-thirds of the patients receiving services at Rusk Rehabilitation Center, Columbia, are from communities of less than 15,000 people and fewer than 10% of patients come from large urban areas or surrounding suburbs. Over half (58%) of discharged patients use the Health Sciences Center as the primary source of care even though they live some distance from Columbia.

Among the findings is that there appears to be limited number of rehabilitation professionals in rural areas, although nearly one-third of Missourians live in rural areas. Most of the rehabilitation disciplines evaluated in this study had less than 20% of their licensed professionals living in rural areas of the state (e.g., medical doctors, physician assistants, occupational therapists (OTs), OT assistants, physical therapists, speech pathologists, psychologists, psychiatrists, and social workers). There are only eight physiatrists available to provide medical services to 1,736,148 residents in 91 rural counties in the state (out of 114 counties plus the City of St. Louis). However, while there is a limited number of rehabilitation professionals in rural areas, rehabilitation facilities may be more readily available in those areas. Approximately half of the skilled nursing facilities in the state are also located in rural Missouri.

Professions which appeared to have an adequate number of professionals available to practice in rural areas include doctors of osteopathy, physical therapy assistants and LPNs. Also, there are more independent living centers serving rural (56%) than urban parts of the state. The Division of Voca-

tional Rehabilitation (DVR) has 42.31% of its offices in rural areas, and has placed them so that all rural residents are within 75 miles of the closest DVR office. One-third of the Department of Health and Senior Services, Head Injury Program service coordinators provide services to rural areas and just over half of the Division of Mental-Retardation and Developmental Disabilities Regional Centers are located in rural areas. (The results of the survey, completed in summer 2000, were submitted to *The Journal of Rural Health.*)

With the addition of statewide service coordination and increases in state funding over the years, services provided by the Department of Health and Senior Services Head Injury Program have also expanded in rural areas. This has occurred due to the service coordinators actively recruiting local agencies, some of which provide services to other disability populations, such as developmental disabilities, that have expanded to included individuals with traumatic brain injury. In contrast, in 1986, services were largely provided by providers in the Kansas City, Columbia and St. Louis areas of the state, as well as the Missouri Rehabilitation Center, Mt. Vernon.

Trends

Services are shifting from a facility-based model for delivering an array of rehabilitative services to a model of providing the services within the home and community. Requests for head injury services delivered by the Department of Health and Senior Services have increased for transitional home and community services. The emphasis on using the person centered approach for obtaining services has also resulted in the use of natural and integrated supports in the community.

As noted in the University of Missouri Model Systems study, expertise in the rural areas is often lacking. To address this issue the University of Missouri-Columbia developed a telerehabilitation project to train mental health professionals and social workers in rural areas in brain injury and overlaying conditions associated with traumatic brain injury, such as substance abuse and depression. This project developed a web site and lists those professional who are involved in the project.

Discussion

Developing adequate rehabilitation services that are accessible throughout the state is difficult for several reasons, including adequate reimbursement from third-party payers to support rehabilitation programs and sufficient number of staff with experience in brain injury. To receive services, individuals often need to travel to the location of the program or have access to housing where the program is located. Individuals who have received rehabilitation services also need adequate support in the community or within the family in order to return successfully to their communities. The Department of Health and Senior Services Head Injury Program has built in options for these type of rehabilitative services to also be provided in individuals own home.

One strategy for expanding the number of resources and providers has been to develop expertise in brain injury within existing provider systems and among professionals that may have expertise in serving individuals with disabilities other than TBI. The second federal TBI grant (2000-2001) awarded to the Department of Health and Senior Services funded a project to develop provider competencies for direct care providers and to identify training which may be available to address those competencies. Service coordinators have also been providing training in their regions, and the

Missouri Department of Health and Senior Services

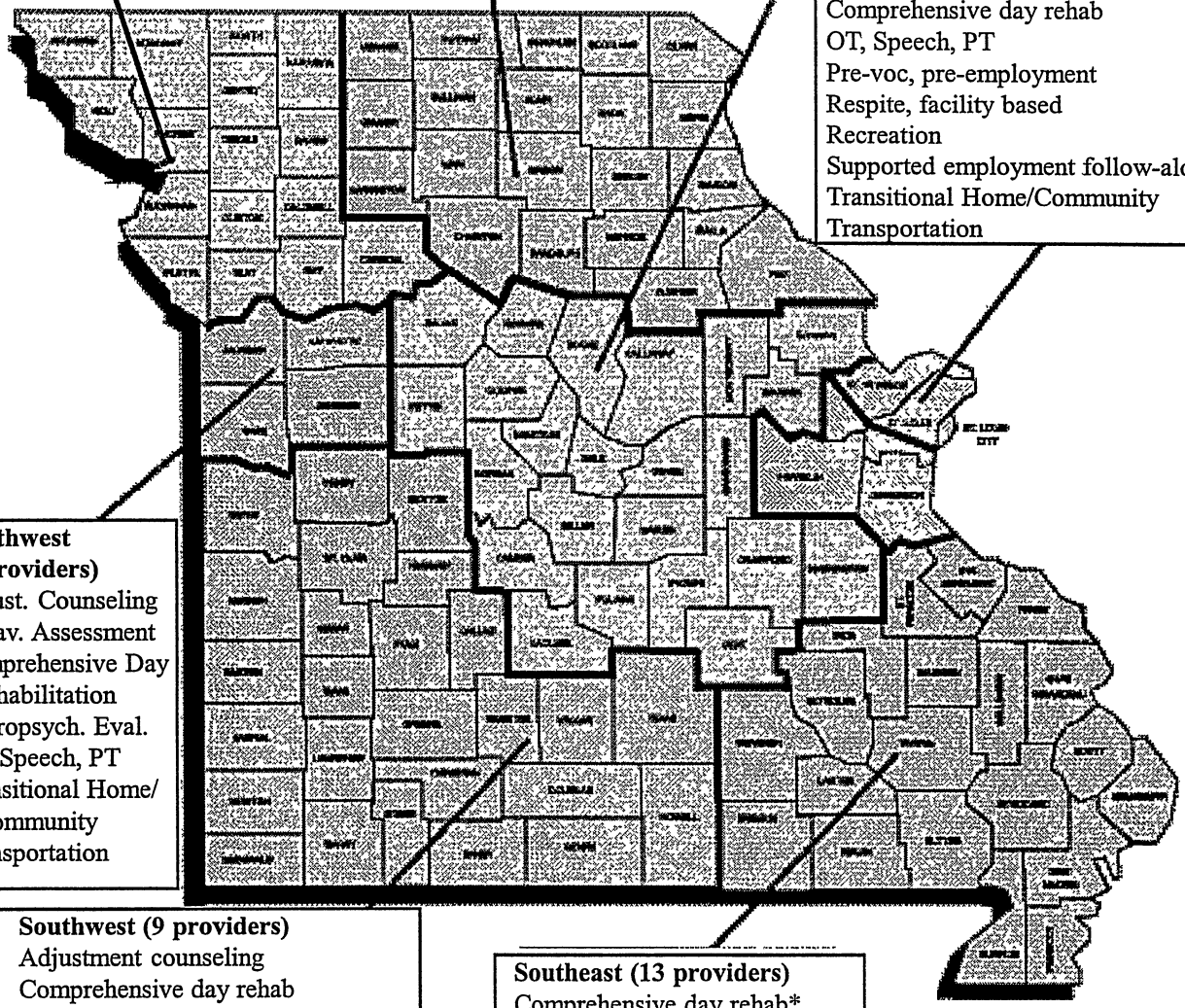
Bureau of Special Health Care Needs
Head Injury Program
Provider Distribution/Services Available

Central (8 providers)
Adjustment counseling
Comprehensive day rehab
OT, Speech, PT
Pre-voc, pre-employment
Respite, facility based
Recreation
Supported employment follow-along
Transitional Home/Community
Transportation

Central (6 providers)
OT, Speech, PT
Pre-voc, pre-employment
Respite, facility based
Recreation
Supported employment follow-along
Transitional Home/Community
Transportation

Northwest (2 providers)
OT, Speech, PT
Transitional Home/Community

East (10 providers)
Adjustment counseling
Comprehensive day rehab
OT, Speech, PT
Pre-voc, pre-employment
Respite, facility based
Recreation
Supported employment follow-along
Transitional Home/Community
Transportation



Northwest (7 providers)
Adjust. Counseling
Behav. Assessment
Comprehensive Day Rehabilitation
Neuropsych. Eval.
OT, Speech, PT
Transitional Home/Community
Transportation

Southwest (9 providers)
Adjustment counseling
Comprehensive day rehab
Neuropsych. Eval.
OT, Speech, PT
Pre-voc, pre-employment
Respite, facility based
Recreation
Supported employment follow-along
Transitional Home/Community
Transportation

Southeast (13 providers)
Comprehensive day rehab*
OT, Speech, PT
Pre-voc, pre-employment
Recreation
Supported employment
Transitional Home/Community
Transportation

* Map reflects catchment areas and services that were available July 2001. Regional boundaries were modified July 2002; and some services, such as comprehensive day rehab in southeast area are no longer available.

council holds an annual conference to assist with professional development.

The Interagency Committee on Telerehabilitation/medicine has been studying how this method for delivering expertise may be further developed and funded in order to meet a variety of needs, particularly in the rural areas.

Expand and coordinate existing state capacity

State/Federal Programs and Policies

State agencies administer an array of programs with state and federal funds in accordance with state/federal legislation, rules and regulations with regard to eligibility, services provided, and payment for those services. State agencies have worked with the council and advocates to expand their service capacity, as appropriate, to address issues related to traumatic brain injury. In some instances, state agencies have designated and trained staff to better understand unique issues pertaining to traumatic brain injury. In other instances, state legislation has been passed to expand services or to expand eligibility criteria for services from that state program.

Since 1984, the Missouri Division of Vocational Rehabilitation has designated counselors in their district offices to be TBI specialists and provided training to them regarding cognitive, emotional and physical issues associated with traumatic brain injury. The division also awarded grants to community rehabilitation facilities to develop job assessment, training and other vocational rehabilitation services for individuals with traumatic brain injuries.

In 1989, the legislature passed legislation expanding the state Medicaid program to include comprehensive day rehabilitation services. For individuals who are Medicaid eligible and who have had a recent injury they may be eligible through this program for six months of intensive and coordinated rehabilitation services with a maximum of one year of rehabilitation services. Through an interagency agreement between the Division of Medical Services and the Department of Health and Senior Services, Division of Maternal, Child, and Family Health, Bureau of Special Health Care Needs Head Injury Program, Medicaid reimburses the department for non-emergency transportation services provided to Medicaid eligible individuals served through the department's head injury program and for administrative case management services.

Legislation passed in 1990 expanding the definition for developmental disabilities to include head injury and to include individuals whose injury or disability occurred prior to age 22, instead of 18. At the recommendation of a council ad hoc committee on pediatrics the Division of Mental Retardation and Developmental Disabilities designated case managers in the eleven regional centers and the habilitation centers to be TBI resource staff (1995). In-service training was initially provided to these designated staff and they have continued to participate in conferences and workshops sponsored by the council.

Following the recommendations of the council Task Force on Children and Youth with TBI in 1998, the Department of Health and Senior Services, Division of Maternal, Child and Family Health, Bureau of Special Health Care Needs agreed to be the lead agency for children. Also, as the result of

the report, the Department of Elementary and Secondary Education, Division of Special Education contracted with the University of Missouri, Center for Innovations in Special Education to develop a training curriculum based on the modules developed by the Research and Training Center for Community Reintegration of Individuals with TBI, Mt. Sinai Hospital, New York City.

From 1997-2000, training was provided to nearly 300 service coordinators/case managers and vocational rehabilitation counselors on issues relating to traumatic brain injury and person centered planning. The funding for this project came from the TBI Implementation Grant awarded to the Missouri Department of Health by the U.S. Health Rehabilitation and Services Administration, Maternal and Child Health Bureau. Training was provided by staff from University of Missouri-Kansas City; Research and Training Center on Community Integration of TBI, New York City; University of Missouri-Columbia, Rehabilitation Continuing Education Program, and others.

Develop distinct services not otherwise provided through existing service delivery systems

Funding was first appropriated to the Missouri Department of Health and Senior Services in 1985 for state Fiscal Year 1986 to provide transitional rehabilitation services through the Missouri Rehabilitation Center and to purchase through contracts an array of services in the community. Since 1986, funding for purposes of contracting community-based services, including service coordination, has increased more than three fold. The services through the state head injury program are designed to offer specialized services not otherwise available through other state departments. The Missouri Rehabilitation Center has since been transferred to the University of Missouri-Columbia Hospital and Clinics and continues to receive a state appropriation for brain injury rehabilitation.

An interagency committee comprised of the program manager for the Department of Health and Senior Services Head Injury Program, staff from the Division of Medical Services, head injury council and the Division of Mental Retardation and Developmental Disabilities worked on the development of a TBI Home and Community-Based Medicaid Waiver application during 2000-2001. The waiver proposal focused on providing community supports to initially 40 individuals with TBI residing in nursing homes. These individuals were assessed and identified by the head injury service coordinators. The waiver called for using Medicaid to help pay for services identified such as transportation, therapies, in-home support, in-home modifications. However, state funding necessary for the match was not appropriated.

During the 2002 legislative session, legislation passed establishing a head injury trust fund to be administered by the Missouri Head Injury Advisory Council, Office of Administration, for purposes of transition and integration of medical, social and educational services or activities for purposes of outreach, and short-term supports to enable individuals with traumatic head injury and their families to live in the community, including family counseling and mentoring. The fund will be created from a $2 surcharge on any county ordinance or any violation of criminal or traffic laws of this state, effective August 28, 2002.

Current Service Delivery: Overview

The service delivery system has been defined as an array of services from prevention, to acute/ trauma care, rehabilitation, to community and long-term care supports. In Missouri, the state agency that has been designated as the lead agency for individuals with traumatic brain injury is the Department of Health and Senior Services. While that department has some major responsibilities pertaining to surveillance, emergency services, trauma care, service coordination, and rehabilitation and support services, other agencies may have federal or state funding that will augment those services or provide assistance/resources that may not be provided by that department. This section identifies the elements of a service delivery system and highlights state agencies that have a part in that system. There are also private resources and community agencies that carry out many of these functions. Many are supported with funding from the state or federal government, while others rely on local or private funding sources.

As state financial resources have become less available, in many instances, state agencies have began to focus on better coordination of those resources and services with regard to programs that may have some common purposes and may serve some individuals in common.

I. Prevention

The incidence and severity of brain injury can be reduced through prevention and early intervention activities. Injury has traditionally been regarded primarily as an unavoidable "accident" rather than a public health problem. However, injuries can be prevented with a variety of strategies. Three general strategies are available to prevent injuries: (1) *Persuade* persons at risk to alter their behavior, (2) *require* individual behavior change by law or administrative rule and (3) *provide* automatic protection by product and environment design. More specifically, injury strategies focus primarily on environmental design, product design, human behavior, education, and legislative and regulatory requirements that support environment and behavioral change.

Prevention--Planning and Coordination

The Missouri Department of Health and Senior Services, Division of Health Resources received a capacity development grant to develop an injury control and prevention program in September 1989, from the Centers for Disease Control and Prevention. An advisory committee was appointed by the director and the Missouri Head Injury Advisory Council was represented on this committee. After the initial grant expired, the program continued with funding from various federal grants. It was moved to the Division of Maternal, Child and Family Health in 1995, which had also received a federal grant from the Centers for Disease Control and Prevention to establish the Office of Disabilities Prevention during the fall of 1991. The purpose of the latter grant was to coordinate prevention activities for primary and secondary disabilities due to head and spinal cord injuries; developmental disabilities due to fetal alcohol syndrome; and secondary disabilities due to sickle cell anemia.

During 2000-2001, the director of the Division of Maternal, Child and Family Health re-established the office for injury control and prevention and re-assigned staff to the program beginning July 13, 2001. The office and the Injury Prevention Advisory Committee are developing an injury report illustrating the extent of injury in the state and by county. The report will also include interventions and resources. It is anticipated that the report will be available in the fall of 2002.

Prevention Programs--Public Education

In Missouri, prevention programs and efforts cut across several state agencies. These efforts may focus on specific causes of injury, such as traffic related injuries, or contributing factors, such as alcohol and drug abuse, or with regard to certain populations such as children or elderly. In general, agencies that may have common goals, such as prevention of alcohol and drug abuse, may coordinate their resources and work together on united activities as the federal or state funding allows. Most of the state agencies partner with local community programs to carry out the activities in the community. Again, some of the community agencies may receive funding from more than one state agency for the various activities. These funds are not for duplicative efforts, but for coordinated, comprehensive efforts.

Traffic Safety

The Missouri Division of Highway Safety was created as the result of the National Highway Safety Act of 1966, and is funded through the Federal Department of Transportation, National Highway Traffic Safety Administration, and the Federal Highway Administration. Its mission is to reduce deaths, injuries and property damage caused by traffic crashes. The division serves as a conduit providing funding and information to law enforcement agencies and community groups throughout the state to achieve its goals.

The division funds several programs aimed at reducing drunk driving, increasing use of child safety seats and seat belts, reducing the amount of speeders, and other highway safety areas. The division also produces and distributes many printed materials on a variety of highway safety topics including bicycle safety and pedestrian safety. Types of materials include: fact sheets, posters, brochures, flyers, activity books, coloring books, and lapel pins. The division coordinates its efforts with the State Highway Patrol, Department of Health and Senior Services, law enforcement community, Department of Revenue, and other state and local programs.

At the end of the summer 2002, the division will kick off a media campaign called "Click It, Don't Risk It" to encourage vehicle occupants to buckle their seat belts. The division is also establishing fitting stations in collaboration with local fire departments (St. Louis City) and others interested in training staff to assist the public in probably fitting child safety seats in their cars.

Community Prevention Programs

THINK FIRST of Missouri (formerly known as HEADS UP and Missouri Head and Spinal Cord Injury Prevention Project), University of Missouri-Columbia, conducts school assemblies addressing the need for exercising good judgment in order to avoid unnecessary injury. The preven-

tion program has been modeled in all parts of the state, as well as nationally. The program has been replicated in Kansas City, St. Louis, Joplin, Springfield and Cape Girardeau. The THINK FIRST of Missouri, University of Missouri-Columbia, receives financial assistance from the Missouri Department of Health and Senior Services, Missouri Division of Highway Safety, and other sources. The Missouri Division of Highway Safety also contracts with the THINK FIRST program in Kansas City for prevention of traffic related injuries and fatalities.

The *TEAM SPIRIT* Program model was developed and demonstrated by the Pacific Institute for Research and Evaluation (PIRE) under a cooperative agreement with two Federal agencies active in the fight against youth substance and impaired driving: the National Highway Traffic Safety Administration (NHTSA) and the Office of Juvenile Justice and Delinquency Prevention (OJJDP). *TEAM SPIRIT* was first successfully demonstrated in Dallas, Texas in 1989, and has since been implemented in several different sites across the nation. Beginning in 1991, Mothers Against Drunk Driving (MADD) took a lead role in sponsoring *TEAM SPIRIT*. They have continued that commitment to *Team Spirit* by making it part of MADD's Youth Programs. The *TEAM SPIRIT* Leadership program is designed to empower high school-aged youth to take an active role in preventing alcohol and other drug use and the impaired driving that accompanies such use. It is supported by the Division of Highway Safety.

The Division of Highway Safety also funds two SAFE Communities projects (Cape Girardeau and Springfield). An initiative of the National Highway Traffic Safety Administration, SAFE Communities promotes injury prevention activities at the local level to solve local highway and traffic safety and other injury problems. It uses a "bottom up" approach involving its citizens in addressing key injury problems.

The SAFE KIDS program, a national coalition of 300 civic and health organizations was formed to focus on childhood injury. Initiated by Children's Hospital National Medical Center, Washington, D.C., the campaign is supported by Johnson & Johnson and the National Safety Council. In Missouri, there is a statewide coalition and six local SAFE KIDS Campaigns: Columbia, Newton/Jasper, Springfield, St. Louis, Cape Girardeau Area, and Jefferson City Area. The program is coordinated by the Office of Disabilities Prevention, Department of Health and Senior Services. The local initiatives focus on educating the public about bike safety, child safety seats, safety around water to avoid drowning or near drowning, and fire related injuries.

Alcohol and Drug Abuse

The Department of Mental Health, Division of Alcohol and Drug Abuse certifies programs that provide services to individuals who have had an alcohol or drug related traffic offense. The Substance Abuse Traffic Offenders Program (SATOP) serves more than 32,000 DWI offenders annually who are referred as a result of an administrative suspension or revocation of their driver's licenses, court order, condition of probation, or plea bargain. When a person's driver license is suspended or revoked due to

an alcohol related offense, SATOP is, by law, a required element in driver's license reinstatement by the Department of Revenue. All SATOP offenders enter the system via an Offender Management Unit. Offenders receive a screening assessment where a review of their driving record, breath alcohol content at the time of their arrest, computer-interpreted assessment and an interview with a qualified substance abuse professional is conducted. Based upon the information gathered during the screening, an appropriate referral is made to one of several types of SATOP programs.

The Division of Alcohol and Drug Abuse provides services through a network of contractors who operate prevention programs. The Division monitors these providers and their staffs, who must meet state certification standards. Preventing substance abuse not only prevents the tragic consequences of addiction, but allows for better use of the limited resources available to the Division of Alcohol and Drug Abuse. Therefore, the division strives to reduce the number of persons needing treatment through an extensive prevention effort.

Community- and School-Based Prevention Programs

There are five major components of the Division of Alcohol and Drug Abuse's prevention system: Community 2000, school-based initiative, community-based services for youth and others (formerly known as "high risk youth programs"), regional support centers, and statewide training and resource center. These components combine to create a continuum of prevention services available to all populations and all regions of the state.

Community 2000 is a network of volunteer, community teams focusing on reducing the incidence of substance use and abuse in their communities and changing community norms toward substance use by youth and others. Organization and development of Community 2000 teams was initiated in 1987. Each team is composed of community volunteers from the area served. Teams receive technical assistance and training from the regional support centers on a variety of topics related to their organization development and to organizing and implementing prevention strategies.

Regional Support Centers (RSC) are the primary source of technical assistance support for the Community 2000 teams. The goal of the RSC is to facilitate development of teams capable of making changes in substance use patterns in their community. Each RSC has a mobilizer or prevention specialist who works directly with the teams in his or her area and assists with the development of teams and task forces in communities that desire to develop one.

The School-based Initiative (Missouri SPIRIT) will startup during the 2002-03 school year. The mission of the Initiative is to support the development and implementation of a continuum of substance abuse prevention services in all public schools, grades kindergarten through 12. A pilot test of the Initiative's concepts and models will take place in five school districts in the 2002 - 03 school year.

Community-based services for youth and others are provided by community based nonprofit organizations. These services include programs targeted to youth at high-risk of early use of alcohol and other drugs and replications of model, science-based programs.

The Statewide Training and Resource Center (STRC) conducts a variety of activities and programs on behalf of the Division and the overall state prevention system. The STRC provides resources, training, and technical assistance for the RSC and community-based service providers; also, STRC presents a number of statewide, prevention conferences and workshops throughout the year. STRC also operates a consultant resource bank with resources available to the prevention community, administers the Community 2000 mini-grant program, and operates the statewide RADAR resource site.

D.A.R.E. (Drug Abuse Resistance Education)

The Missouri State Highway Patrol administers the D.A.R.E. program for the state of Missouri, with the Training Division coordinating the program on a statewide basis. Currently, hundreds of police officers from municipal, county, state, and federal agencies are trained and certified to teach D.A.R.E. in the elementary, junior high, and high schools within the state. The D.A.R.E. program also has expanded to include classes for parents and in special education classes. D.A.R.E. mentors from the Patrol and from other agencies within the state serve as instructors at the Law Enforcement Academy to train interested law enforcement officers to teach the D.A.R.E. program.

Child Abuse

During the 1991 legislative session, a bill passed establishing child death review teams in every county to better understand the events surrounding the death of a child and methods for prevention. Missouri became the second state to mandate child death review teams in every county. The law was in response to the realization that circumstances related to injury deaths to children often were unreported or inadequately investigated. As the result, all health practitioners, law enforcement officials, social service personnel and any other person with responsibility for the care of children must report any death of a child under the age of 15 to the coroner/medical examiner. Because of the multidisciplinary nature of these teams, this is an opportunity for communities to develop preventive measures and treatment options for children and families prior to the death of a child. A state death review team compiles data from these reviews to provide an understanding of the circumstances under which children die from injuries and the degree to which these deaths are preventable.

The Children's Trust Fund supports programs and projects designed to prevent child abuse. The Trust Fund, assigned administratively to the Office of Administration, operates with a governor appointed Board of Directors and receives funding from a tax check off program, specialty license plates, donations, and grants. The Children's Trust Fund specialty license plate also provides the opportunity to engage community partners in raising funds for local child abuse prevention programs. Once a license plate partner reaches its goal of selling 100 plates ($2,500), it may spend the money on its particular pre-approved child prevention project. Funds raised through the activities of the partner may be used to support development, implementation, and evaluation of child abuse and neglect prevention programs and services. In 2001, there were 28 active license plate partners throughout Missouri. The Children's Trust Fund also sponsors an annual conference on prevention of child abuse and neglect.

In July 2002, more than $1.5 million was awarded to 57 community-based organizations and agencies throughout Missouri to provide programs and services that help support families to reduce the risk of child abuse and neglect. Many of the programs are to focus on home visitation and school-based prevention education, which include counseling, crisis intervention and parenting classes.

Playground Safety

The Missouri Head Injury Advisory Council initiated a playground safety project, Project Sunshine, to engage community service organizations in assessing and promoting safe playground equipment. The project manual and materials were developed by the Central Missouri State University Safety Center with funding from the Missouri Department of Health and Senior Services. The 4-H clubs in central Missouri are piloting the project and started promoting awareness of the project among its leaders during the fall of 2000.

Violence

S.T.O.P. Violence Against Women's Act

The Violence Against Women's Act (also called the STOP Violence Against Women Formula Grant Program) is a formula block grant program authorized by Title IV of the Violent Crime Control and Law Enforcement Act of 1994. The Office of Justice Programs within the U.S. Department of Justice oversees the program at the federal level. The Department of Public Safety has been designated as the agency responsible for administering these funds at the state level. The STOP (Services - Training - Officers - Prosecutors) Violence Against Women Formula Grant Program provides funding to units of state and local government and nonprofit, nongovernmental victim service providers for the purposes of developing and strengthening effective law enforcement and prosecution strategies to alleviate violent crime against women, and to develop and strengthen victim services in cases involving violent crime against women.

Approximately $2,800,000 is available annually (Contract period Jan. 1 through Dec. 31). Eligible programs must provide a minimum of 25% of the total project cost as match.

Prevention--State Laws

Missouri has several laws designed to reduce fatalities and injuries including: mandatory seat belt law for occupants in the front seat of automobiles and primary law for persons ages 4-15, child safety restraints for children under the age of four, motorcycle helmet usage law for all riders, severe penalties for DWI (Drinking While Intoxicated), and graduated licensing. In 2001, the Missouri General Assembly passed legislation, which was signed, to lower BAC for DWI to .08. However, Missouri does not have an open container law.

Missouri has also passed legislation requiring all ATV (all terrain vehicle) drivers under the age of 18 to wear a helmet and persons under the age of 16 must be supervised by an adult.

Trends

Use of seat belts in Missouri is up from 60.8 percent usage rate in 1999 to 67.8 usage rate in 2000. During the fall of 2002, a survey will be conducted to see if safety belt usage has improved. The mileage death rate has decreased significantly over the past decade. The rate dropped from 1.8 in 1998 to 1.6 in 1999.

According to a new study released July 2002 by the Air Bag & Seat Belt Safety Campaign of the National Safety Council, teen seat belt use rates in states with strong belt laws are consistently and significantly higher than those in states that do not have a primary seat belt use law. There are presently 18 states with primary seat belt use laws that allow law enforcement officers to stop and ticket motorists based solely on an observed seat belt violation. The study found that teenage drivers in secondary states were far less likely to be buckled up in fatal crashes. Belt use was 47 percent among fatally injured 16- to 19-year-old drivers in states with primary laws, compared to 30 percent in states with secondary laws. The report shows Missouri ranked 40th with only 24% of teens (drivers) were buckled in fatal crashes; and only 15 % of teen passengers fatally injured were wearing their seat belts. Missouri does not have a primary seat belt law.

The study also found a number of factors that were predictive of belt use by teenagers. For 16 to 19 year-old, significantly lower belt use was associated with male drivers (30 percent belt use) vs. female drivers (49 percent belt use); drivers with a blood alcohol content (BAC) estimated at 0.10 or higher (18 percent) vs. zero (40 percent); drivers of pickup trucks (20 percent) vs. passenger cars (40 percent); vehicles 11 years or older (29 percent) vs. 1-5 years old (40 percent); rural roadways (35 percent) vs. urban roadways (39 percent); and crashes occurring midnight - 5:59 a.m. (25 percent) vs. 6:00 a.m.- 8:59 p.m. (42 percent). In addition, driver belt use declined as the number of younger passengers increased, but increased in the presence of a least one passenger 30 years or older.

II. Emergency Medical Services/Trauma Care

There are many phases of care in the overall management of the individual with the traumatic brain injury beginning with trained emergency or prehospital personnel, followed by the combined efforts of the emergency medicine physician and trauma team. The outcome of injury depends not only on its severity, but also on the speed and appropriateness of treatment starting with the emergency medical services team at the scene of the injury. The hour from the scene of the injury to the emergency department is referred to as the "golden hour." Studies have shown that the mortality will increase by 50% if there is delay in care beyond the golden hour. Emergency medical services personnel are trained to provide immediate treatment and to determine which patients need to be transported to a trauma center.

Hospitals that are designated as trauma centers have special teams and services to care for the individuals with severe injuries. There are three recognized levels of trauma centers: Level I and II trauma centers manage the most severely injured and Level III provides care to those who are less

severely injured. Level III trauma centers may stabilize a patient, then transfer those with major injuries to a Level I or Level II trauma center. Once the patient is in the hospital setting, the trauma team coordinates specialty services including critical care and rehabilitation medicine.

The first Missouri EMS statue took effect in 1973 and required the licensure of ambulance vehicles and ambulance attendants. In 1998, all of the EMS statues were revised by the "Comprehensive Emergency Medical Services Systems Act". This Act is administered by the Department of Health and Senior Services, Division of Health Standards and Licensure, Bureau of Emergency Medical Services, which is now responsible for:

- designating adult and pediatric trauma centers
- licensing air ambulance services
- licensing ground ambulance services
- licensing ALS emergency medical response agencies
- licensing EMT-Basics
- licensing EMT-Paramedics
- accrediting EMS training entities
- maintaining the ambulance reporting system, the head injury registry, the spinal cord injury registry, and the trauma registry.

All licensure periods are for five years. The legislation also established in the state treasury a fund to be known as the "Wireless Service Provider Enhanced 911 Service Fund".

Missouri started designating voluntary trauma centers in 1981. In 1987, the first statute was passed formalizing the trauma center designation program. In 1987, the legislation passed which updated to meet or exceed the current national standards related to trauma systems. Presently, Missouri is served by a network of 32 trauma centers. This number includes 12 hospitals designated as Level III trauma centers, 12 hospitals serving as Level II centers, seven Level I trauma centers, and three pediatric Level I trauma centers. No hospital can hold itself out to the public as a trauma center unless so designated by the Bureau.

State regulation requires a trauma center to complete a trauma registry on each injured patient that is admitted for more the 24 hours, any patient who is transferred to or from another acute care general hospital, any patient who dies in the hospital, and any patient who is admitted to the intensive care unit during the hospital stay. The state has been collecting trauma registry data from state designated trauma centers since January 1, 1990. All acute care general hospitals have been required by regulation to submit head injury registries and spinal cord injury registries to the state since July 1, 1987. The state has also been collecting ambulance reporting data on injured patients who have been transported to an acute care general hospital by ground or air ambulances since July 1, 1975.

In 1987, the legislature created a State Advisory Council on EMS, which is responsible for

making recommendations on policies, plans, procedures and regulations to the Governor, the legislature, and the department. The Bureau takes it direction from this statewide, multidisciplinary council of fifteen members who are appointed by the Governor and confirmed by the Senate.

As of July 1, 2001, the state has been divided into six EMS regions and the department has established six EMS regional committees. In addition, a State Medical Directors Advisory Committee was established in keeping with state law, and that advisory committee and the six regional committees are subcommittees of the State Advisory Council on EMS.

Nationally

In the mid-50s, the American College of Surgeons (ACS) developed the first training program for ambulance attendants. The American Academy of Orthopedic Surgeons (AAOS) also conducted courses for ambulance service personnel culminating in 1967 with the first "Orange Textbook," *Emergency Care and Transportation of the Sick and Injured,* edited by Doctor Walter Hoyt. This document and a subsequent text developed by the National Academy of Sciences and National Research Council (NAS/NRC), were the first national attempt to standardize EMS training.

The EMS Division of the federal National Highway Traffic Safety Administration develops and enhances comprehensive emergency medical service systems to care for the injured patients involved in motor vehicle crashes. The 1966 report, the *Accidental Death and Disability: The Neglected Disease of Modern Society,* helped to stimulate development of federal funding through the Highway Safety Act of 1966. In 1969, the Highway Safety Bureau, which later became the National Highway Traffic Safety Administration (NHTSA), came into existence, and the development of a curriculum to standardize ambulance attendant training (EMT-Ambulance) was begun. There have been several other significant milestones with regard to EMS, such as the passage and repeal of the Emergency Medical Services Systems Act of 1973, and the Trauma Care Systems Planning and Development Act of 1990.

In 1996, the National Highway Traffic Safety Administration (NHTSA) and the Health Resources and Services Administration (HRSA) published the consensus document titled the *EMS Agenda for the Future,* commonly referred to as the *Agenda*. This was a federally funded position paper completed by the National Association of EMS Physicians (NAEMSP) in conjunction with the National Association of State EMS Directors (NASEMSD) to create a common vision for the future of EMS. It was designed for use by government and private organizations at the national, state, and local levels to help guide planning, decision making, and policy regarding EMS.

III. Rehabilitation

The overall goal of rehabilitation is to enable a individual with a traumatic brain injury to return to his/her employment/school and to his or her home environment. The acute phase includes ICU/ acute trauma and neurosurgical care, acute inpatient hospital rehabilitation, and subacute in-hospital care, such as coma management. Once a person is medically stabilized, the person is often referred to

post-acute rehabilitation. Rehabilitation services may include physical and occupational therapies, speech and language therapy, and cognitive rehabilitation.

Cognitive and behavioral rehabilitation therapies are designed to improve an individual's capacity to process and interpret information, as well as the overall goal of improving the individual's ability to function in all aspects of family and community life. Usually, the rehabilitation is focused on restoring the individual's functioning ability. Compensatory strategies are also generally included in the rehabilitation process to help with deficits as memory. For example, memory books and electronic paging systems, are sometimes used to compensate for specific memory deficits.

Psychotherapy may be used to treat depression and loss of self-esteem associated with cognitive impairments. The focus of psychotherapy may be to provide emotional support, to provide explanations of the injury and its effects, to help achieve self-esteem in the context of realistic self-assessment, reduce denial, and increase ability to relate to family and society. Pharmacological agents may be useful in a variety of affective and behavioral disturbances associated with traumatic brain injury. Behavior modification may be used to address the personality and behavioral effects of traumatic brain injury and for retraining individuals in appropriate social skills.

These type of rehabilitative services may be provided in various settings. Most programs providing rehabilitation services are private facilities, not- for -profit or for- profit. Several hospitals provide rehabilitation and outpatient rehabilitation services such as speech therapy, physical therapy and occupational therapy on a limited basis. A few hospitals and rehabilitation facilities provide comprehensive day rehabilitation, which is an outpatient program providing half day or full day services for six months, and if progression is noted, up to one year. Postacute approaches include home-based rehabilitation, outpatient rehabilitation programs, community re-entry programs, comprehensive day treatment programs, residential community reintegration programs, and neurobehavioral programs.

Most of the programs require the patient or client to have the ability to pay for services or have access to third party pay such as insurance or worker's compensation. For those who do not have the ability to pay, there is limited state funding through the Department of Health and Senior Services and for Medicaid eligible individuals, comprehensive day rehabilitation is a state plan service.

The Missouri Rehabilitation Center, Mt. Vernon, now operated by the University of Missouri-Columbia, receives a state appropriation for rehabilitation, transitional living, and out patient services for individuals with traumatic brain injuries. (In 1985, the State Chest Hospital became the Missouri Rehabilitation Center, and the mission was changed to rehabilitation. Funding was appropriated for Fiscal Year 1986 for transitional living services. In 1996, the program was transferred from the Department of Health to the University of Missouri-Columbia.)

Behavior Unit

During the 1989 legislative session, the Missouri Rehabilitation Center, which was then operated by the Missouri Department of Health and Senior Services, received funding for four beds for persons with head injury with severe behavior problems. Other than the Missouri Rehabilitation Center, there are no other programs or services in Missouri specializing in severe behavior problems. (There are a few people who have received services from a neighboring state under the Missouri Medicaid program. Some people with behavior issues or overlaying mental health issues reside in state mental health hospitals.)

Substance Abuse Treatment and Community Support/Followup

In 1992, the Missouri Rehabilitation Center began working with the Missouri Division of Alcohol and Drug Abuse to develop treatment models for persons with brain injury. The division modified requirements under the C-STAR program (Comprehensive Substance Treatment and Rehabilitation), which is certified by the division and funded by Medicaid, to accommodate persons with special learning problems. This program, as of 2001, had new staff and was revamping and revitalizing the program.

Discussion

The National Institutes of Health Consensus Conference held in 1998 noted that there is little recognition that traumatic brain injury is frequently a lifetime disability with varying rehabilitation needs over that lifetime. That is, people may need rehabilitative services again after receiving such services following the injury. The participants of the conference also noted other problems with the current models of TBI rehabilitation. One issue relates to access to rehabilitation services. There is a wide discrepancy in the availability of TBI rehabilitation programs across geographic regions and a lack of knowledgeable professionals able to facilitate community-based rehabilitation. There are also major issues relating to coverage, or reimbursement/payment for rehabilitation services and therapies. Also, noted, was that traditional medical rehabilitation often do not involve individuals with brain injury and their families in the decision-making process for developing goals and options the individual and family.

In his presentation and paper for the consensus conference, Jeffrey S. Kreutzer, Ph.D., ABPP, Virginia Commonwealth University Medical College of Virginia, reported that fewer days in the hospital means that there are also fewer opportunities to address family members' emotional needs. With shorter hospital stays family members have less time to recover from the emotional shock of the initial injury. Shorter rehabilitation stays also results in less time for neurobehavioral recovery and discharge planning. His paper also documented that families often feel overwhelmed and ill prepared to care for the family member with a brain injury. Dr. Kreutzer noted that the emotional distress of individual family members, particularly parents and spouses, has been documented, with depression and anxiety most frequently reported (Mauss-Clum, Ryan, 1981; Kreutzer, Gervasio, Camplair, 1994a; Waaland, Kreutzer, 1988). Increased use of tranquilizers, alcohol, and mental health counseling have been offered as indications of severe emotional distress (Livingston, 1987;

Brooks, 1984).

Family Support and Information

Families generally need and want information on brain injury, expected outcomes, services available and so forth, while their family member is in the hospital. Since 1990, in Missouri, a resource handbook has been made available to hospitals and rehabilitation facilities to provide to families. The guide was originally produced by the Missouri Head Injury Foundation (now known as the Brain Injury Association of Missouri) with assistance from the Missouri Head Injury Advisory Council and financial support from the Missouri Office of Administration. The guide has been revised and reprinted several times. In 1997, a family packet of materials was also developed along with reprinting of the guide. The Missouri Department of Health and Senior Services printed the materials (10,000 packets) for distribution. In 2001, these packets and guide were updated and reprinted by the department. The revised guide is now written at a fifth grade reading level. The TBI federal grant provided funding to revise the guide and to also have it translated into Spanish.

Another project designed as outreach to families is the Missouri Support Partner Program. The project was also funded by the TBI grant to support training of volunteers, development of program manual, printing of brochures, and to support five part time coordinators to facilitate the matching between families of individuals newly injured with trained volunteers. Starting October 1, 2000, the Department of Health contracted with the Brain Injury Association of Missouri, with federal grant funds, for overall program administration and coordination. The Brain Injury Association assumed full responsibility for the program October 1, 2001.

The legislation creating the Missouri Head Injury Trust Fund provides a funding mechanism to provide family counseling and mentoring. The law is effective August 28, 2002, and requires a $2 surcharge on all criminal and traffic violations to be collected and administered by the Missouri Head Injury Advisory Council.

Linking Individuals with Traumatic Brain Injury to Services After Hospitalization/Rehabilitation

What happens to people with traumatic brain injury after they leave the acute hospital. Both Colorado State University and the University of South Carolina are researching ways to link people with brain injury to information that can help them get the services they need. Preliminary findings released in 2000 indicate that 1 in 3 people with reported disability received no services after discharge from the hospital.

Researchers in Colorado tracked more than 1000 Coloradans who had a traumatic brain injury in 1996 and 1996. Hospital data and medical records were reviewed and participants, with their permission, were interviewed over the telephone a year after their injuries. These people came from a population-based sample. The severity of injury or whether they had rehabilitation did not matter.

Preliminary information shows the following:

- Just over half went directly home from the hospital. They did not receive any rehabilitation services or other outpatient services. These tended to be the people who had the least severe injuries. Almost 90% of them were under age 65.

- About another third also went directly home from the hospital, but these individuals did have outpatient services in the community waiting for them. These also tended to be people with less severe injuries, and most of them were also under age 65.

- Only three percent of those in the study went directly from the hospital to a nursing home or other long term care facility. These tended to be the people who were oldest at the time of injury. Older individuals were much more likely to go to nursing homes than younger people.

- Only 15% of all the Coloradans with brain injuries were admitted to an inpatient rehabilitation program. However, 80% of all TBIs were less severe, and people in this group were sent directly home from the acute hospital. Those who did go to rehabilitation had more severe injuries and were younger.

- Women were slightly more likely to go to nursing homes or other long term-care facilities than men. They were also somewhat more likely to be discharged directly to home, with outpatient support services.

- People from minority groups were less likely to go to inpatient rehabilitation programs after acute care. They were also less likely to go to nursing homes.

- Other data from this study showed that people who did not have private insurance - particularly those whose bills were paid by Medicare or Medicaid - were, in fact, much more likely to go directly to a nursing home from the acute hospital.

Outcomes of Traumatic Brain Injury

Preliminary findings from the Colorado study, funded by Centers for Disease Control and Prevention, suggest that, one-year after injury, among TBI survivors aged 16 years or older:

√ Approximately 30 percent of those hospitalized with TBI report some level of disability
√ Only half of those previously employed were still working
√ Only 12 percent of those in school at the time of injury remained in school

Discussion

One of the ongoing discussions of the Missouri Head Injury Advisory Council has been how to

link families, who have a member in the hospital, and persons with head injury to services and resources prior to discharge from the hospital or rehabilitation. Service coordination is viewed as a way to do that, yet, how do service coordinators receive referrals. The Missouri Support Partner Program coordinators found that there are frequent changes in hospital staff so that much energy must be spent to keep hospital trauma nurses, social workers, acute care nurses, and so forth informed of that program and resources available. The program also discovered what has been verified through the Model Systems data project, that individuals are not staying in acute care, unless seriously injured, for any length of time. Individuals are being transferred to rehabilitation as soon as medically stable. The other problem encountered by the support partner coordinators is that people who received hospital care often live in other parts of the state than where the trauma center or rehabilitation center is located. This sometimes made it difficult for follow up.

While the Missouri registry provides overall information regarding the extent of traumatic brain injury in the state, it does not provide identifying information to service coordinators to allow them to contact individuals. There has been discussion with the council and the Department of Health and Senior Services regarding the possibility of requiring hospitals to notify the department as soon as someone is admitted to the hospital in addition to the information provided after hospital discharge. The thinking is that then the department could notify the head injury service coordinator who would then contact the family.

As a result of the federal grant awarded to the Missouri Department of Health and Senior Services for the purpose of developing a single application for state services, a working group representing the various state programs reviewed current processes for obtaining services. One of the recommendations of the working group is to improve linkages between hospitals/rehabilitation programs and state service coordination/case management systems to assist individuals in accessing needed services in a timely fashion. The recommendation was specifically to develop a protocol, beginning with the development of one between the Department of Health and Senior Services and SSM Rehab, St. Louis. The department submitted a new grant August 3, 2002, to develop and expand that concept in order to improve linkages and referrals, and has received notice of the grant award.

IV. Transition/Community Integration Support Services

Beyond the traditional medical approach, other services and supports may be needed in order for individuals with traumatic brain injury to transition and integrate into the community. This includes peer support, service coordination, special education, respite for the family/caregiver, and pre-vocational and vocational rehabilitation. For those who will not be able to engage in competitive employment without some type of assistance, other alternatives will need to be available. Community support services provide ongoing or intermittent support to individuals with brain injury and their families, thus, enabling them to live in the community on their own or with family or with other assistance. These services may exist independently or be part of a larger program and include recreation, counseling, transportation, therapies, in-home and personal care assistance, housing supports,

and other support services.

As in other fields, case management/service coordination is a major role in the provision of services and should be addressed as a major component of the service delivery system. The Missouri Department of Health and Senior Services has the responsibility for providing service coordination, as well as other rehabilitation and community support services, not provided by other state agencies to adults with traumatic brain injury and their families. The Bureau of Special Health Care Needs provides service coordination for children with special health care needs. Many state/federal programs offer case management services as a part of that particular program including the Division of Mental Retardation and Developmental Disabilities, which offers case management services for individuals with developmental disabilities, including head injury if injury occurs prior to age 22, through the eleven regional centers.

Children and Youth

Traumatic brain injury is the leading cause of death and disability in children and adolescents in the United States. The most frequent causes are related to motor vehicle crashes, falls, sports, and abuse/assault. However, many students with mild brain injury or concussion may never see a health care professional at the time of the injury or may seek emergency room care with no follow up with regard to possible affects of the injury.

The majority of children with traumatic brain injury return to school, although their educational and emotional needs are likely to be very different from they were prior to the injury. For children who are hospitalized and/or receive rehabilitative therapies, there needs to be careful planning and communication by the rehabilitation team to assist with transitioning back to school. Some children may need special education services, while others may need educational accommodations within the regular classroom setting.

For children with severe brain injuries they may need continued therapies, special accommodations, and care. Families may also need assistance to handle inappropriate behavior, cognitive deficits and other issues outside of school. Respite is also a service that families may need.

In 1998, the council agreed with the council's Task Force on Children and Youth recommendation that the Bureau of Special Health Care Needs assume the responsibility of lead agency for children and youth with traumatic brain injury. The Bureau agreed, and now codes for traumatic brain injury those children who are on their case loads. The Bureau also agreed to purchase services for adolescents who may need services similar to those provided in the Adult Head Injury Program.

Other state and federal programs may also fund or provide services that may meet the needs of children and youth with traumatic brain injury. The Medicaid program Health Children and Youth, formerly known as Early and Periodic Screening, Diagnosis and Treatment, provides an array of services for children up to age 21. This program is administered by the Missouri Department of

Health and Senior Services, Bureau of Special Health Care Needs. The Division of Mental Retardation and Developmental Disabilities offers some services to those children who may be eligible for their services.

Department of Health and Senior Services, Division of Maternal, Child and Family Health, Bureau of Special Health Care Needs (children's services)

The Bureau of Special Health Care Needs has agreed to be the lead agency for children with traumatic brain injury and offers service coordination and purchases services that may be needed. The Bureau agreed to pilot a program by purchasing services for adolescents who may need services similar to those that are available from the Adult Head Injury Program. This project has not served very many as families often exceed the 185% of poverty requirement for services through the Bureau. (There is no financial eligibility for service coordination).

Healthy Children And Youth Program

The Medicaid Early Periodic Screening, Diagnosis and Treatment (EPSDT) program in Missouri is referred to as the Healthy, Children and Youth (HCY) Program. The HCY program provides services for eligible children and youth, age 0-20 years. The changes are a result of federal legislation contained in the Omnibus Reconciliation Act of 1989 (OBRA 89) and is a mandatory service.

Under this program all Title XIX Medicaid eligibles are equally eligible for services covered by the "state plan" and for all medically necessary services identified as a result of an HCY screen that are above the scope of the "state plan".

Non state-plan services which have been added for children under 21 years are:

- Psychological/counseling/social worker services
- Case management
- Private duty nursing
- Speech, occupational, and physical therapy
- Environmental assessments for lead

Additional benefits have been added:

- Personal care
- Home health
- Orthodontic care
- Medically necessary hospital beyond state plan limits
- Durable medical equipment

The expansion goals of the HCY program are to provide all Medicaid eligible children with appropriate full health screens and subsequent treatment for identified health problems. Components of a full health screen are: interval history; physical examinations, anticipatory guidance, laboratory tests, immunizations, lead screening, development / personal social / language, fine/gross motor, hearing, vision, and dental. A full screen may be provided by a Medicaid enrolled physician, a nurse practitioner or nurse midwife when it is within their scope of practice. Partial and periodic screenings are available from a wide range of health care professionals

Division of Special Education

The reauthorization of Individuals with Disabilities Education Act (IDEA) in 1990, requires school districts to report the number of students with traumatic brain injuries. Prior to the federal requirement, the Division of Special Education had prepared a manual, *Developing Individual Education Plans for Students Who Have Suffered Traumatic Head Injury,* and assigned staff to assist school districts. In 1998, the Research and Training Center for Community Integration of Individuals with TBI, New York City, agreed to share the training they had developed and delivered to all of New York City educators. More specifically, the agreement was that they would adapt the New York training, four modules, to fit Missouri's educational system. The Department of Elementary and Secondary Education contracted with the Center for Innovations in Special Education (CISE) to develop a plan for pre-training (for college level students preparing for education degrees), for training for educators and for developing a pool of consultants to be available to assist school districts at their request. CISE was also to finish a manual for educators which had been partially developed. In 1999, the manual, *Educational Directions for Students with Traumatic Brain Injury*, was produced. During the fall of 2000 and spring of 2001, four workshops were held to assist educators in identifying children with traumatic brain injuries ("Understanding Students with TBI") and two were held in the spring of 2002 ("Expanding the Assessment Paradigm for Students with TBI").

Division of Vocational Rehabilitation

The Individuals with Disabilities Education Act (IDEA), requires transition planning and services to promote movement from school to postschool activities, such as employment, postsecondary education, or vocational training. In addition to IDEA, the federal School-to-Work Opportunities Act passed in 1994 to provide all students with opportunities to participate in programs that integrate school- and work-based learning, vocational and academic education, and secondary and postsecondary education.

The School-to-Work Act channels funding to states and local partnerships to create school-to-work systems. All 50 states, the District of Columbia, and the territories have received noncompetitive school-to-work development grants, which were used to design statewide systems and to write state plans. One-time, five-year implementation grants were awarded through a competitive process when the states presented a comprehensive school-to-work plan and demonstrated the capability to implement the plan. Currently, all states and the District of Columbia and Puerto Rico have received implementation grants. In Missouri, this grant funded Missouri's Community Careers System, which is composed of 15 regional partnerships and over 50 local partnerships.

The Division of Vocational Rehabilitation, Department of Elementary and Secondary Education, and Rehabilitation Services for the Blind, Department of Social Services are two of the adult service providers that play a key role in the transition planning process and in coordinating work experiences for students with disabilities who are still in the secondary school setting. One of the transition services that these two agencies help coordinate and implement is the Cooperative Work-Experience

Program (COOP). In this program, DVR and RSB work in partnership with individual school districts to provide students with disabilities, credit for participating in off campus, paid or unpaid work-experiences. Direction, supervision and coordination of the COOP program are provided by the Work-Experience Coordinator (WEC) and the Vocational Rehabilitation Counselor (VRC) who work as a team to obtain positive employment outcomes for their students. In addition to coordinating work experiences, active involvement of the Vocational Rehabilitation Counselor in the COOP Program establishes a strong connection between the student and the adult service provider before graduation or exit from school.

Higher Education

The Division of Vocational Rehabilitation provides some financial assistance to persons with disabilities attending college.

A transitional program for students with learning disabilities and students with brain injury is offered at Longview Community College, Kansas City. Called Project ABLE, the program offers specialized courses and counseling to teach skills needed to be successful, independent learners. ABLE consists of a structured curriculum including guidance courses to develop social, self-advocacy, and career planning skills; study skills courses, paired with regular college courses; and basic academic skills courses.

Adults

Missouri Department of Health and Senior Services
Division of Maternal, Child and Family Health, Head Injury Program

The Adult Head Injury Program is located in the Division of Maternal, Child and Family Health, Bureau of Special Health Care Needs. The program provides assistance in locating, coordinating and purchasing rehabilitation and psychological services for adults who have reached their 21st birthday, who have survived a traumatic brain injury. Although funding was first appropriated to the Missouri Department of Health in 1985 for Fiscal Year 1986 to contract for rehabilitation and other community services, the department was not officially designated as the lead agency until 1991, when legislation passed. The legislation provided statutory authority for developing, coordinating and providing an array of services. The Department of Health and Senior Services Head Injury Program provides two types of services: (1) Service Coordination and (2) Rehabilitation Services.

1) Service coordination is free of charge to all individuals who are medically eligible for the program regardless of income. Currently, there are eight service coordinators throughout the state to provide this service. Service coordination includes:

- Evaluation and assessment of needs
- Information and education about the cause and effects of traumatic brain injury and preventing secondary conditions
- Development of a service plan to meet the identified needs

- Assistance in locating and accessing resources and services such as medical care, housing, counseling, transportation, rehabilitation, vocational training, and cognitive/behavioral training

2) Rehabilitation services are available to individuals who are medically eligible for the program and whose income is 185% of Federal Poverty Guidelines or lower. Certain limitations may apply.

The Head Injury Program Service Coordinator will assist the client to apply for any other payment resources before submitting requests for use of Program funds to purchase these services. All clients must be enrolled with the Bureau of Special Health Care Needs before services can be authorized. All services must have prior authorization before provision of services. Services include:

- Neuropsychological Evaluation and Consultation
- Behavioral Assessment Counseling
- Adjustment Counseling
- Comprehensive Day Program
- Transitional Home and Community Support
- Pre-Vocational/Pre-Employment Training
- Supported Employment/Follow Along
- Special Instruction
- Physical Therapy Evaluation/Treatment
- Occupational Therapy Evaluation/Treatment
- Speech Therapy Evaluation/Treatment
- Recreation Activities
- Respite Care
- Transportation

The Program uses a person-centered approach that places the participant and family at the center along with the Head Injury Program Service Coordinator to facilitate the assessment, planning and service delivery efforts for each individual. The Service Coordinator, together with the individual and family or significant others, develops a Program Service Plan. The Program Service Plan outlines a long-term projected outcome goal, such as return to work or independent living, and the steps to achieve this goal. These steps may include referral for any public programs, development of skills through rehabilitation services or development of other supports that will assist the individual to reach the maximal level of independent community functioning. The Service Coordinator documents the Program Service Plan, assures that the client and family wishes are included in the plan, obtains their signatures of agreement, and provides them with a copy of the plan.

The team that works with the individual will always include: the participant, the Head Injury Program Service Coordinator, involved family member(s), significant other(s), and/or the legal guardian. Other members will be added at appropriate times given changing needs as the participant

moves through services toward functional independence. The Service Coordinator actively assures the ongoing coordination and functioning of the planning team. The Service Coordinator assures that at least an annual review of the Program Service Plan is scheduled.

The Department of Health and Senior Services reported the total general revenue appropriations for the state years as follows:

FY 1998: $723,993
FY 1999: $932,993
FY 2000: $982,993
FY 2001: $1,724,298
FY 2002: $1,724,298

Division of Senior Services (formerly Division of Aging)

The Division of Senior Services provides some services to individuals with disabilities 18 and over. *Home health care agencies* provide three type of services: (1) In-home visits by nurses, which generally are covered by Medicaid or Medicare; (2) homemaker program providing non-medical assistance, such as grocery shopping, to elderly or handicapped persons who would otherwise be in nursing homes, which is a Medicaid service; and (3) private duty (8 hours at a time), which is generally covered by private pay, insurance and sometimes Medicaid.

Personal Care Assistance provides in home assistance which may include help with dressing, bathing, eating or other personal care activities, thus enabling a person to reside in a semi-independent living situation.

Trends

The trend in the Department of Health and Senior Services has been to outsource or contract for staff as opposed to hiring departmental employees for specific jobs. This has been true with the service coordinator positions. Initially, funding for two service coordinators was appropriated under the personal service category, meaning that the coordinators were hired by the Bureau of Special Health Care Needs and placed in district offices administered by the Bureau. When it was determined that funding that was appropriated for purposes of developing residential/behavior services was not going to be implemented, permission was granted to the department to use that funding for obtaining additional service coordinators. The appropriation was made under the expense and equipment category so those coordinators were obtained through contracts either with a county health department or the University of Missouri as opposed to being hired as departmental employees. After the Bureau service coordinator positions were vacated (retirement, resignation), those positions became contractual positions as well.

Another trend, and emphasis, is on developing outcomes and efficacy measures for all department service coordinators, not just the head injury service coordinators, and program outcomes. The federal TBI grants awarded to the department included an activity to develop a method for document-

ing individual assessments and progress; improved client satisfaction survey to capture additional information regarding the injury and needs; and for capturing overall program outcomes.

Department of Social Services
Division of Medical Services

The Medicaid Program, authorized by federal legislation in 1965, provides health care access to low income persons who are age 65 or over, blind, disabled, or members of families with dependent children. Since that time, legislative options and mandates have expanded the categories of eligibility to include Medicaid coverage for children and pregnant women in poverty, refugees, and children in state care. The Missouri Medicaid program is jointly financed by the federal government and Missouri State Government, and is administered by the State of Missouri. The agency charged with administration of the Medicaid program is the Division of Medical Services, a division within the Department of Social Services.

Medicaid covered services fall into two categories — mandatory and optional. Mandatory services are required by the federal government for all states wishing to have a Medicaid program. Optional services may be provided at the state's discretion. In 1988, the legislature passed legislation establishing comprehensive day rehabilitative services for head injury as an optional service. This service is for individuals no more than five years post injury and will cover six months of goal directed rehabilitation with the option to have an additional six months of coverage provided progress is noted. The Department of Health and Senior Services has an interagency agreement with the Division of Medical Services to receive Medicaid reimbursement for non-emergency medical transportation services to certain Medicaid eligible services and for administrative case management provided by the head injury service coordinators. Other services that individuals with brain injury who are Medicaid eligible may receive include: inpatient hospital, outpatient hospital, certain medical and rehabilitation services, home health care, homemaker and chore services, personal care, private duty nursing, day care, and nursing facility care.

Medicaid Waivers

Congress enacted Section 2176 of Public Law 97-35 of the Social Security Act, entitled the Omnibus Budget Reconciliation Act. Through this enactment in 1981, certain statutory limitations have been waived in order to give states, who have received approval from the Department of Health and Human Services, the opportunity for innovation in providing home and community based services to eligible persons who would-otherwise require institutionalization in a nursing facility, hospital or intermediate care facility for the mentally retarded (ICF/MR).

Three departments administer Medicaid waivers that individuals with TBI may be meet the eligibility criteria. The Department of Mental Health, Division of Mental Retardation and Developmental Disabilities administers the Missouri Children with Developmental Disabilities Waiver (Sarah Lopez Waiver) and the MR-DD Home and Community-Based Waiver. To be eligible individuals

must have incurred their injury prior to age 22, be Medicaid eligible and eligible for ICF-MR services (or hospital/institution).

The Home and Community-Based Waiver is used as the primary source of funding for people with developmental disabilities who live in the community. The division uses general revenue funds to match federal Medicaid dollars to pay for services under the waiver. The waiver includes people who live in group homes, supported living, and with their families. Approximately 7,500 individuals are served by the waiver at an average cost of $77 per day.

The Sarah Lopez Waiver allows parental income and resources to be disregarded for permanently and totally disabled children living at home who otherwise would require services at an institution. Eligibility is based on the following guidelines: the income and resources of the child must not exceed Medicaid financial guidelines; the child's condition must meet the criteria set by Medicaid for the permanently and totally disabled; the child must be certified to need the level of services provided by an intermediate care facility designed to treat mental retardation; and the cost of providing the needed services in the child's home can be no greater than the cost of the services provided in an intermediate care facility. The Sarah Jian Lopez Waiver will allow up to 200 children, under age 18, with developmental disabilities to receive specialized care funded by Medicaid while continuing to live at home with their parents. The Sarah Lopez Waiver grants Medicaid eligibility to those children who would be determined eligible for Missouri Medicaid if they were to reside in an institution, but whose families have chosen to have the child remain home.

The Department of Elementary and Secondary Education, Division of Vocational Rehabilitation administers a self -directed personal care waiver for individuals with physical and/or cognitive disabilities. To be eligible individuals must be Medicaid eligible and meet eligibility for nursing home. The program is administered through the centers for independent living.

The Department of Health and Senior Services, Division of Maternal, Child and Family Health, Bureau of Special Health Care Needs administers the Physical Disabilities Waiver. This waiver covers limited services for some individuals covered under the Healthy Children and Youth program who require the same services, such as private duty nursing, after the age of 21. The Healthy Children and Youth Program is the Medicaid program known as Early and Periodic Screening, Diagnosis and Treatment Program (EPSDT), a mandatory program for children under the age of 21.

Exceptions

The Division of Medical Services may provide coverage through the exceptions process for services not covered by Medicaid. A provider may request coverage for an item or service under certain conditions of unusual or compelling need. The item or service which exceeds the normal Medicaid benefits must be needed to sustain the recipient's life, improve the quality of life for the terminally ill, replace an item due to an act of nature or be needed to prevent a higher level of care. No exception can be made for items or services which are restricted by State or Federal law or

regulation.

The state also has a limited medical assistance program which is funded with General Revenue and Blind Pension funds. The program allows General Relief, Child Welfare Services (CWS), and Blind Pension recipients who are not eligible for the federal Medicaid program to receive necessary medical care.

Services/Expenditures for TBI

From January 1, 1998 through December 31, 1998 (calendar year), a total of 149 individuals with traumatic brain injury received the state plan service, Comprehensive Day Rehabilitation Program. Of that amount 118 were males and 31 were females. The breakdown by age:

0-3 years of age -- 1
4-12 years of age -- 0
13-17 years of age -- 4
18-64 years of age -- 143
65+ years of age -- 1

In terms of the numbers of individuals with traumatic brain injury receiving other Medicaid health care and related services, those numbers can not be determined.

Medicaid Buy-In Program for Employment

During the 2001 legislative session, state legislation passed to establish a Medicaid buy-in program and funding to support housing needs associated with transitioning from a nursing home or institutional care to the community. The Section 203 of the Ticket to Work and Work Incentives Improvement Act of 1999 (TWWIIAA) modernizes the employment services system for people with disabilities and makes it possible for individuals with disabilities to join the workforce without fear of losing their Medicare and Medicaid coverage. The federal legislation directed the Secretary of the Department of Health and Human Services (DHHS) to establish a grant program to support State efforts to enhance employment options for people with disabilities. The Centers for Medicare and Medicaid Services, formerly known as Health Care Financing Administration (HCFA), is the designated DHHS agency with administrative responsibility for this grant program.

Medicaid Eligibility

The Division of Family Services is responsible for determining eligibility for Medicaid. The medical assistance program provides medical care for persons who are elderly, or permanently and totally disabled, or who are blind. Each person participating in the medical assistance program is issued a "Medicaid Identification Card" or a letter from the local Division of Family Services office, identifying the person as eligible for certain medical care services.

Any person is eligible who:

- is permanently and totally disabled, or is 65 years of age or older, or is 18 years of age or older and is determined by law to be blind (vision less than 5/200);
- has net income less than $545 per month for an individual, or $817 for a couple. (If monthly income exceeds this amount, the claimant may become eligible when their incurred medical expenses reduce their monthly income below this limit.)
- who lives in Missouri and intends to remain;
- who is a United States citizen or an eligible legal immigrant;
- if aged or disabled and if single, owns cash, securities or other total non-exempt resources with a value of less than $1,000, or if married and living with spouse, individually or together, $2,000 or less (Note: Exempt resources include the home in which the claimant or claimant's spouse or dependents live, one automobile, household goods and certain other property. If a disabled child under age 18 is living with his parents, the non-exempt resources of the parents will be included);
- if blind and single, does not own personal property worth more than $2,000 or, if married and living with spouse, does not own property worth more than $4,000 individually or together,. The following is not considered; the home in which the blind person lives, clothes, furniture, household equipment, personal jewelry, or any other property used directly by the blind person in earning a living.);
- if blind, does not have a sighted spouse who can provide support
- if blind, does not publicly solicit alms; and
- is not a resident of a public, private, or endowed institution except a public medical institution.

Many Medical Assistance recipients may also be eligible for Qualified Medicare Beneficiary or Specified Low-Income Medicare Beneficiary benefits.

During the 2002 legislative session, House Bill 1111, which is the appropriation bill for the Department of Social Services, contained a provision authorizing the state to only reimburse providers for medical expenses that exceed a recipient's spenddown amount, effective October 2002. Consequently, Medicaid will not pay for any portion of a person's spenddown amount.

Trends

The Division of Medical Services has been at the center of most of the discussion with regard to the Olmstead Decision. The focus has been on developing and offering community and in-home based services as a choice in lieu of institutional care. Some of the Medicaid programs have an institutional bias in that the financial eligibility criteria differs for nursing home care than for in-home care/services. At the same time, the Medicaid program has undergone much growth in expenditures. However, the Missouri General Assembly did pass legislation allowing Medicaid buy-in for persons with disabilities desiring to work.

Missouri Department of Mental Health

The Department of Mental Health operates three service divisions providing and purchasing an array of services for individuals who qualify for services from the Division of Mental Retardation and Developmental Disabilities, Division of Alcohol and Drug Abuse, and the Division of Comprehensive Psychiatric Services. The department has determined that 562 individuals with traumatic brain injury receive services from these three divisions as of August 31, 2000.

Division of Mental Retardation and Developmental Disabilities

The Division of Mental Retardation and Developmental Disabilities serves persons who have been diagnosed with mental retardation, cerebral palsy, epilepsy, head injury, autism, learning disabilities and other developmental disabilities. The disability must be manifested before the age of twenty-two, be likely to continue indefinitely and result in substantial functional limitations. To be eligible for services from the division, persons with these disabilities must be substantially limited in their ability to function independently.

The division improves the lives of persons with developmental disabilities through programs and services to enable those persons to live independently and productively. In 1988, the division began participation in the Medicaid home and community-based waiver program, designed to help expand needed services throughout the state.

The division operates 17 facilities that provide or purchase specialized services. Eleven regional centers form the framework for the system, backed by six habilitation centers, which provide residential care and habilitation services for more severely disabled persons.

The regional centers, the primary points of entry into the system, provide assessment and case management services, which include coordination of each client's individualized habilitation plan. A regional center may refer a client to a habilitation center. Habilitation centers primarily serve individuals who are severely disabled, behaviorally disordered, court-committed, or medically fragile. All habilitation centers are Medicaid certified. The Division operates Habilitation Centers and Regional Centers that provide or purchase specialized services. The Regional Centers, based in eleven principal sites and supported by numerous satellite locations, are the primary points of entry into the system. Regional Centers provide assessment and case management services, which include coordination of each individuals "person centered plan." A Regional Center may refer a individual to an Habilitation Center. Habilitation Centers primarily serve individuals who are severely disabled, behaviorally disordered, court-committed, or medically fragile. The primary mission of the Habilitation Centers is to provide residential support and treatment services to people referred by the Regional Centers.

Community-Based Services

Family Stipend and Loan Program-These programs began in 1993 to assist families who have children (under age 18) with developmental disabilities living at home. The programs help maintain and enhance families' ability to care for their children at home. The monthly cash stipend, which can amount to the maximum federal SSI payment for an individual with a disability who lives at home, can be used for goods and services to benefit the child. Low-interest loans, with a maximum amount of $10,000 for a 60-month period, are also available for families who may not be able to get a loan through traditional means.

Choices For Families-This program provides funds to help meet the needs of family members with disabilities who live at home. Families can either pay for services and submit receipts for reimbursement, or obtain vouchers to purchase services. The vendors providing the services then turn the vouchers in for repayment. The program can be used for virtually any family support service for which there may not be a suitable contracted provider.

Missouri Department of Mental Health
Division of Comprehensive Services

The Division of Comprehensive Psychiatric Services operates three long-term and three acute care facilities. One additional facility has both a long-term and an acute program. In addition the division operates two children's psychiatric hospitals, one children's residential center, and one community mental health center.

The division divides Missouri into 25 service areas. Each service area has a service provider designated as the division's administrative agent. These administrative agents are responsible for the assessment and services to persons in their assigned areas and for providing follow-up services for persons released from state-operated inpatient services.

Outpatient Community-Based Services--Outpatient services provided in an individual's community offer the least-restrictive environment for treatment. An evaluation and treatment team provides services utilizing the resources of the individual, his/her family, and the community. Outpatient programs offer individual, group, and family therapy, medication management, etc.

Targeted Case Management--Targeted Case Management services are intended to assist individuals in gaining access to psychiatric, medical, social, and educational services and supports.

Day Treatment/Partial Hospitalization--Day treatment offers the least-restrictive care to individuals diagnosed as having a psychiatric disorder and requiring a level of care greater than outpatient services can provide, but not at a level requiring full-time inpatient services. Day treatment

may include vocational education, rehabilitation services, and educational services. The focus is on developing supportive medical and psychological and social work services.

Residential Care/Community Placement--Moderate-term placement in residential care provides services to persons with non-acute conditions who cannot be served in their own homes. A residential setting has more focused goals of providing a structured living environment in which to develop functional adaptive living skills, self esteem, self control of impulses, social skills, insight into personal issues, and enhanced family interactions.

Inpatient (Hospitalization)--Individuals whose psychiatric needs cannot be met in the community and who require 24-hour observation and treatment are placed in inpatient treatment. These services are considered appropriate for persons who may be dangerous to themselves or others as a result of their mental disorder.

Children with Serious Emotional Disturbances or in acute crisis may receive the above-mentioned services as well as services provided through the programs listed below.

Families First--Families First, an in-home family preservation service for children with serious emotional disturbances, provides four to six weeks of intensive intervention to help families who are dealing with a crisis to maintain their children at home.

Extended Families First--Extended Families First is an intensive three-to-six-month in-home service for children with serious emotional disturbances who return to the community from an impatient or residential facility. The program assists in the reunification of the child with family, school, and community.

Wrap Around--Wrap around is a flexible, short-term, time-limited funding method that is available to meet the unique situation or crisis needs of families of children with serious emotional disturbances.

Respite--Temporary care given to an individual by specialized, trained providers for the purpose of providing a period of relief to the primary care givers.

Treatment Family Home Program--This program licenses private family residences to provide specialized, 24-hour support, case management, and out-of-home care for youths with serious emotional disturbances.

Missouri Department of Mental Health
Division of Alcohol and Drug Abuse

The division plans and funds prevention, treatment and rehabilitation programs for persons with substance abuse problems. It is estimated that more than 259,000 Missourians are in need of treatment services for alcohol and other drug abuse. The division provides funding for prevention, outpatient, residential, and detoxification services to community-based programs that work with communities to develop and implement comprehensive coordinated plans. The division provides technical

assistance to these agencies and operates a certification program that sets standards for treatment programs, qualified professionals, and alcohol and drug related educational programs. The Division of Alcohol and Drug Abuse provides services through a network of contractors who operate treatment facilities. The division monitors these providers and their treatment staffs, who must meet state certification standards.

Treatment

Treatment services are targeted to individuals based on the severity of their problem and their ability to pay. The division is able to serve only 35,000 of the estimated 259,000 Missourians who may need substance abuse treatment. Services are also available through privately approved treatment programs whose funding comes largely from health insurance benefits.

Detoxification--In the first step to recovery, detoxification, the individual is assisted in withdrawing from alcohol or drug addiction in a safe, supportive environment.

Residential Rehabilitation--In a residential treatment program, a person receives around-the-clock care, seven days a week. Rehabilitation includes assessment, individual and group counseling, family counseling, participation in self-help groups, and other supportive measures designed to help a person live an alcohol and drug-free life.

Outpatient Rehabilitation--Persons whose substance abuse is less severe or chronic do not require residential settings for treatment. Outpatient rehabilitation also is designed for persons who have graduated from residential programs and need follow-up and after-care services, counseling, and referral to support groups.

C-STAR--In the past, inpatient or residential treatment temporarily removed a person from the problem environment with little or no follow-up care. CSTAR (Comprehensive Substance Treatment and Rehabilitation) focuses on serving people where they live by providing appropriate treatment services in a normalized, safe (substance-free) home. The program provides drug rehabilitation services, special skill-building and education programs, a protective setting for clients, and case management to help meet medical and social needs.

Women's Treatment Programs--Substance abuse affects women differently than men, physically and psychologically. The division funds treatment programs to provide detoxification, residential and outpatient rehabilitation, and CSTAR services tailored to the needs of women and their families, including pregnant women.

Adolescent Treatment Programs--Early treatment and aftercare are very important in averting chronic abuse and accompanying problems among young people. Adolescent programs annually provide residential and outpatient services to about 1,200 adolescents.

Substance Abuse Traffic Offenders Program (SATOP)--The Department of Mental Health, Division of Alcohol and Drug Abuse certifies programs to provide services to individuals who have had an alcohol or drug related traffic offense. The Substance Abuse Traffic Offenders Program (SATOP) serves more than 30,000 DWI offenders annually who are referred as a result of an administrative suspension or revocation of their driver's licenses, court order, condition of probation, or plea bargain. When a person's driver license is suspended or revoked due to an alcohol related offense, SATOP is, by law, a required element in driver's license reinstatement by the Department of Revenue.

All SATOP offenders enter the system via an Offender Management Unit. Offenders receive a screening assessment where a review of their driving record, breath alcohol content at the time of their arrest, computer-interpreted assessment and an interview with a qualified substance abuse professional is conducted. Based upon the information gathered during the screening an appropriate referral is made to one of several types of SATOP programs.

Oxford Houses--Oxford House is a network of self-run, self-supported recovery houses. Each house is chartered by Oxford House, Inc. In order to be considered for a charter, each house abides by three basic rules. The house evicts anyone who relapses, the house is financially self-sufficient, and the house is democratically run by the members themselves. Oxford House provides a safe, supportive, and secure place to call home. It is a place where individuals can make the behavioral changes necessary to ensure continued sobriety. The division helps foster Oxford House development throughout the state.

V. Vocational Rehabilitation and Employment

Several federal laws have passed to streamline job training programs carried out by the state. In addition to the "Ticket to Work and Work Incentives Improvement Act of 1999", Congress has passed the Workforce Investment Act of 1998 reforming and streamlining Federal employment, adult education, and vocational rehabilitation programs to create a "one-stop" system.

Department of Elementary and Secondary Education
Missouri Division of Vocational Rehabilitation

The State Vocational Rehabilitation Services Program (VR program) is authorized by Title I of the Rehabilitation Act of 1973, as amended (Act) (29 U.S.C. 701-744), most recently in August 1998. The federal vocational rehabilitation program is administered through the Missouri Department of Elementary and Secondary Education, Division of Vocational Rehabilitation. Vocational rehabilitation is designed to help persons with physically or mental disabilities become employable. Many services are provided under the federal program of which some are free and others assessed by the ability to pay. The 1998 Amendments reflect the responsibilities of the designated state unit as a required partner in the One-Stop service delivery system (One-Stop system) established under Title I of the Workforce Investment Act.

The Division of Vocational Rehabilitation has assigned a vocational rehabilitation counselor in each district office to work with clients with head injury. The division provides on going in-service training regarding head injury to its counselors to assist them in securing appropriate vocational services for survivors of head injury. The division purchases services from community providers rather than providing direct services. Several vocational rehabilitation programs serve persons with traumatic head injuries with financial assistance from the division. Services include job training and placement.

Supported Employment

Supported employment refers to competitive employment occurring in integrated work settings and being performed by individuals with handicaps for whom either competitive employment has traditionally occurred or competitive employment has been interrupted or become intermittent as the result of a severe disability and which, because of their handicaps, need ongoing job coaching, psychosocial and other support services to perform such work.

Independent Living Centers & Personal Care

There are 21 independent living centers throughout the state that provide in varying degrees personal care, in-home care and other independent living services to persons with disabilities. State funding is appropriated to the Missouri Division of Vocational Rehabilitation for personal care assistance. The state funding is also used to match Medicaid for those who are Medicaid eligible and the service is regarded as a state plan service. The service is provided through the independent living centers. The centers also administer the self-directed care Medicaid waiver in cooperation with the Missouri Division of Vocational Rehabilitation and the Division of Medical Services (Medicaid). The program is designed for people with physical disabilities and cognitive disabilities that require services above and beyond the state plan services.

Department of Economic Development
Missouri Training and Employment Council

In Missouri, the Workforce Investment Act of 1998 programs and activities are administered by the Department of Economic Development. States desiring grants for workforce investment programs are to establish state workforce investment boards to assist the Governor regarding a number of activities. The Missouri Training and Employment Council has been established and includes the Governor, two members of each chamber of the State legislature appointed by the presiding official of each chamber, and representatives appointed by the Governor with the majority of the board members representatives of business. The remainder are representatives of chief local elected officials, labor organizations, individuals and organizations that have experience in the delivery of workforce investment activities and youth activities, and relevant state agency heads. The Governor may appoint other appropriate representatives.

The workforce development system is a partnership of federal, state and local services, all under

one roof. Missouri Career Centers have been established across the state whereby employers, job seekers and those with special needs can visit any one of our throughout the state and receive seamless and comprehensive services. Missouri Career Centers are "one-stop shops" for all employment and training needs. The primary purpose of the One-Stop System is to provide multiple services from many partner agencies at the same location to better serve job seekers and employers. The partners work together to determine customer needs and collaborate to provide a seamless delivery of customer-oriented services.

"Designated" one-stop partners must provide core services through the one-stop, and include programs authorized under The Workforce Development Act, the Wagner-Peyser Act; the Adult Education and Literacy title of this Act; the Vocational Rehabilitation Act; the Welfare-to-Work grants; title V of the Older Americans Act; postsecondary vocational education under the Perkins Act; Trade Adjustment Assistance; veterans employment services under chapter 41 of title 38, U.S.C.; unemployment compensation laws; Community Service Block Grants; and employment and training activities carried out by the Department of Housing and Urban Development. Additional programs also may be partners in the one-stop center with the approval of the local board and local elected official. Workers, employers, students and those looking for a first job or returning to the workforce will find a resource area in each Missouri Career Center. These resource areas are equipped with computers, fax machines and telephones that operate similarly to a public library.

Trends

At the federal level the trend has been to consolidate and streamline job training programs. While vocational rehabilitation services are still separately funded, the program is to participate and coordinate with the workforce development system.

There have been several national studies on the rate of return to work following head injuries and the results have varied. While competitive employment is a goal, often such problems as memory, attention, personality, and interpersonal skills interfere in the achievement of that goal. For others, lack of transportation, housing and other support services may prevent employment.

VI. Financial Planning

Legislation passed in 1991 establishing the Missouri Family Trust as a way for families to contribute to the care and quality of life for their family members with disabilities without risking the loss of vital government funding, such as Medicaid and Supplemental Security Income (SSI). The Trust accepts contributions from any donor (except the named beneficiary or his/her spouse, which is prohibited by federal law).

The donor names the family member who is disabled and a Co-trustee who works with the Trustees of the Trust to assist the beneficiary. Each year the Trustees, with the consent of the Co-trustees, determine how much income and principal of the Trust shall be used to provide benefits. In addition to the Family Trust, a Charitable Trust has been established. The Charitable Trust is funded

through contributions and is administered by the Family Trust Trustees. It is used to provided benefits to indigent person with disabilities whose families cannot afford to establish an individual trust. A separate trust fund, approximately $50,000, has been set aside for individuals with brain injuries.

A Board of Trustees oversees the Family Trust and the Charitable Trust and is comprised of nine members appointed by the Governor with the advice and consent of the Senate.

VII. Systems/Infrastructure

The Missouri Division of Medical Services received a Medicaid Infrastructure Grant to support people with disabilities in securing and sustaining competitive employment in an integrated setting. The grant is to research the potential cost of establishing a Medicaid buy-in program and develop legislation for this program, and well as:

- Develop personal assistance services within the State to meet the needs of individuals with disabilities.
- Develop training material and resources for consumers, providers, employers and state agency staff on work incentives.
- Assure the current system meets the needs of Missouri consumers through consumer and advocate focus groups, interviews and surveys.
- Expand the TWWIIA council to advise in planning and design of the expanded system.
- Train advocates to increase consumer and public awareness on existing programs within Missouri's Medicaid system.
- Conduct public service announcements on the new programs through television and radio.
- Collaborate with Centers for Independent living to offer peer support programs.
- Modify computer systems to accommodate the new eligibility criteria and programs.

State Data Capabilities

Listed below are descriptions of what type of data and how collected by the various state agencies.

Missouri Department of Health and Senior Services

Statistical services of the Department of Health and Senior Services are primarily assigned to the State Center for Health Information Management and Evaluation (CHIME). Data generated by the center aid and guide the planning, development, and evaluation of programs and services of the Department of Health and Senior Services as well as the health-related activities of other agencies, institutions and organizations.

The department collects data through periodic surveys of 13 licensed health professions: MDs, DOs, RNs, LPNs, dentists, dental hygienists, pharmacists, veterinarians, podiatrists, optometrists,

physical therapists, chiropractors, and psychologists, and publishes Missouri Health Manpower, an annual report based on the surveys of the health occupations being surveyed that year. Staff collects a variety of data through annual surveys of hospitals and nursing homes, and hand publishes the Missouri Hospital Profiles and Missouri Nursing Home/RCF Profiles. The department also:

- collects and disseminates patient abstract data for hospital outpatients and inpatients and ambulatory surgical centers.
- publishes consumer guides on outpatient procedure charges and selected hospital services.
- answers special requests for information from the various data systems maintained by the bureau.
- supports the Missouri Injury Prevention Program by studying the incidence of deaths and hospitalizations due to injury, and developing firearm injury and motor-vehicle surveillance systems.
- assists the state Bureau of Emergency Medical Services (EMS) by analyzing data from the ambulance trip ticket data set, the Head and Spinal Cord Injury Registry (HSCI) data, and the Trauma Registry data.
- links motor vehicle crash data to EMS and patient abstract system data to study the medical and cost outcomes of motor vehicle crashes.
- maintain a surveillance system on work-related deaths.
- analyzes data pertaining to Workers Compensation injuries.
- answers requests for data related to injuries.

Missouri administers five computerized data systems which are linked for purposes of researching costs of injuries as the result of motor vehicle crashes: Missouri Head and Spinal Cord Injury Registry, Statewide Trafficway Accident Reporting System (STARS), Missouri Ambulance Reporting System (MARS), Hospital Admissions System, and the Death Certificates System. Four of these systems are administered by the Department of Health. The fifth system, STARS, is administered by the Missouri State Highway Patrol.

In February 1989, the Missouri Department of Health received initial funding from the National Highway Traffic Safety Administration to link these five data systems for purposes of researching costs of injuries as the result of motor vehicle crashes; contributing factors such as lack of seat belt use and speed; effectiveness of the emergency medical services system; and so forth. These linked files are known as the Crash Outcome Data Evaluation System (CODES). CODES data have continued to be developed through a grant from the National Highway Traffic Safety Administration with the help and financial assistance of the Missouri Highway Patrol. Because of the substantial resources required to link and analyze the files, CODES data are only available for 1993 and 1996. The four data systems administered by the Missouri Department of Health and Senior Services include:

- Missouri Head and Spinal Cord Injury/Trauma Registry (computerized system). All hospitals are mandated to report by state law. The registry requires ICD-9 Codes, E-Code, and Glascow Coma Scale at the time of admittance. Since 1997, the Missouri Department of Health Center for Health

Statistics has received a grant from the Centers for Disease Control and Prevention (CDC) for purposes of enhancing the surveillance system. The funding came from federal appropriations as the result of the TBI Act of 1996 and the reauthorization in 2000. Missouri contributes data to CDC which is used along with fourteen other states to determine incidence and prevalence of traumatic brain injury nationally. By law, which passed in 1986, the department is to report data pertaining to head injuries to the Missouri Head Injury Advisory Council.

- Death Certificate System (computerized system). The department has added a code to determine if death resulted from a head injury in addition to the E-Code, which was already a requirement.

- Hospital Discharge Data (computerized system). The data set includes ICD-9 Codes. (Approximately 30-40% data also includes E-Code voluntarily.)

- Annual Nursing Home Survey (computerized system). All nursing homes are surveyed annually by way of a questionnaire. In prior years, the self-questionnaire contained a question with regard to the number of residents with a head injury. The issue of whether to include a similar question or to expand to all disabilities has been discussed by the interagency committee.

- Special Health Care Needs Program. The reporting system includes ICD-9 codes and codes children with TBI.

The Department of Health has much of its data from the sources on its web site. This information is available statewide and by county and by other data sets such as sex, age, and so forth. The department plans to add data from the Missouri Head and Spinal Cord Injury Registry to the website as well.

The Missouri Department of Health also conducts ongoing surveillance with the assistance of the U.S. Centers for Disease Control and Prevention (CDC). Department staff randomly call about 4,200 Missourians during the year and request participation in the BRFSS (Behavioral Risk Factor Surveillance). Interviewers ask questions related to health behaviors, screening, quality of life, mental health, impairment and access to health care and insurance.

Finally, the Missouri Department of Health and Senior Services has developed an integrated information system, MOHSAIC (Missouri Health Strategic Architectures & Information Cooperative) to collect health data and services provided by case managers/service coordinators working in programs in the various bureaus.

Missouri State Highway Patrol

The Missouri State Highway Patrol, through funding from the Missouri Division of Highway Safety, produces the Missouri Compendium which reports Missouri traffic safety statistics related to

areas such as: school bus safety, drinking involvement, and young driver involvement. The division also maintains the Statewide Traffic Accident Reporting System.

Missouri Department of Labor and Industrial Relations

• Workers' Compensation. The injury is coded if the injury is to the head, however, the coding does not differentiate between an abrasion as opposed to a brain injury. The injury is also coded if there was a concussion.

Missouri Department of Mental Health

• Division of Mental Retardation and Developmental Disabilities. All clients receive a DSM IV-R diagnosis (client intake, computerized system), however, for the most part, mental retardation diagnoses from the DSM IV-R are used. The division does not track head injury as a separate category. However, for billing purposes, the department for all three divisions (MR-DD, CPS, ADA) converts DSM IV-R codes into ICD-9 codes.

• Division of Comprehensive Psychiatric Services. Client intake file for all clients (computerized) and diagnosis is referenced by DSM IV-R code. There is not a specific code for head injury, although the diagnosis would probably be an Axis 3 (medical) Organic Mental Disorder, which is a broad diagnosis and includes brain injury, tumor, disease, infection. The division would need to look at patient/client record (medical history) to determine if clients had received a traumatic head injury.

Missouri Department of Elementary and Secondary Education

• Division of Vocational Rehabilitation. A client intake file (computerized) includes a code for traumatic brain injury. The disability code is taken from the client's medical reports.

• Division of Special Education. The Individuals with Disabilities Education Act requires school districts to report children with brain injuries receiving special education services as of Fiscal Year 1993. This information is available by school district.

Missouri Department of Social Services

Medicaid Claims are computerized and show ICD-9 Codes. (Computerized).

ICD-9=International Classification of Diseases, 9th Revision.
DSM=Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Revised.

Program Standards

Program Evaluation/Standards/Certification are the measures against which a program organization or agency is compared to monitor and assess its common practices, quality, and effectiveness in carrying out program and client goals and objectives. The Commission on Accreditation of Rehabili-

tation Facilities (CARF) has developed national standards for some types of brain injury programs. The standards are voluntary and an agency can apply to CARF for accreditation. The Brain Injury Association has developed a certification program for clinicians.

The Missouri Department of Social Services, Division of Aging (to be transferred to the Department of Health and Senior Services August 28, 2001, licenses nursing homes and the Missouri Department of Health licenses hospitals and rehabilitation hospitals. There are no state standards or licensing requirements for residential programs, day programs or other specialized services serving clients or patients with head injury.

During 2000-2001, the Missouri Department of Health and Senior Services and the Missouri Head Injury Advisory Council co-directed a federal TBI grant funded project to develop core competencies for direct care providers. The department contracted with the University of Missouri Instructional Materials Lab, Columbia, to develop the core competencies and to identify training which may already be available to meet those competencies.

VII. Training, Research and Resources

Conferences/Resources

In May 2001, the Missouri Head Injury Advisory Council sponsored its 16th annual statewide conference for over 200 providers and also its 17th annual conference in May 2002. The council also exhibits and provides information on traumatic brain injury at conferences sponsored by Center for Innovations in Special Education, Department of Elementary and Secondary Education, Governor's Council on Disability, AAMR, and Missouri Association of Counties of Developmental Disabilities Services. The council also exhibited and was a co-sponsor of the Parent to Parent Conference sponsored by the Missouri Planning Council for Developmental Disabilities in August 2001.

The council also maintains reference materials that are provided upon request and maintains a web site.

Research and Training

The University of Missouri-Columbia received funding from the National Institute for Disability Rehabilitation Research (NIDRR), Office of Special Education and Rehabilitation Services, Department of Education for a model TBI systems center (1997-2002). The Missouri Model Brain Injury System is one of 17 national centers in the United States, which among other projects, contributed to a national data base. The center's mission is to investigate those factors that affect and improve the outcomes of individuals with traumatic brain injury. The Missouri Head Injury Advisory Council served in an advisory capacity and some of the state agencies (Division of Vocational Rehabilitation and Department of Health and Senior Services) also cooperated with the projects. In contrast to the other national centers, the University of Missouri-Columbia primarily provided services to individuals with TBI in rural settings.

MOMBIS conducted a series of innovative research projects, and contributed data to the National TBI Model System Database to coordinate national TBI research efforts with other model system centers. The projects supported by NIDRR funding include:

Project 1 - Developing natural supports in the community

MOMBIS personnel worked to develop and strengthen natural community support systems for persons with TBI, families and professionals. This project focused on using natural supports, such as family, friends, neighbors, schools, churches, employers and co-workers to support TBI survivors and their families. A MOMBIS-trained Natural Support Specialist worked to improve knowledge of natural support systems and to increase consumer utilization of these systems in the rural communities of Central Missouri. This project was evaluated to measure changes on consumer community integration, employability, quality of life, family adaptation and health care utilization.

Project 2 - Improving vocational and financial outcomes

Individuals with TBI often have significant difficulties returning to work because of the physical, cognitive, emotional, and behavioral impairments they face. Assisting individuals with TBI in their return to work can improve their financial status, self-esteem, and general functioning. Project 2 of the MOMBIS identified those factors that are most predictive of vocational and financial outcomes for individuals with TBI. Every person with a TBI who receives a neuropsychological evaluation for the Missouri Division of Vocational Rehabilitation (DVR) were followed to determine what is most helpful to them in returning to work. Particular questions of interest were to determine what are the best predictors of outcome (e.g., gender, age, race, IQ level, neuropsychological impairments, physical problems, etc.), what are the specific vocational services that are most beneficial (e.g., vocational training, supported employment, etc.), and how vocational rehabilitation improves personal earning capabilities and reduces the need for government assistance programs.

Project 3 - Partial weight-bearing gait retraining

Individuals with traumatic brain injuries often have difficulty regaining functional walking or other bodily abilities after their injury. One of the MOMBIS research projects was the use of a weight-bearing harness system to gradually re-train individuals in the proper walking and exercise techniques. In addition to normal physical therapy, TBI consumers are assisted in these special exercise motions by a trained therapist. This additional training is videotaped for later analysis by a biomechanics expert.

Project 4 - Violence-related injury as a risk factor

Certain social risk factors, such as substance abuse, physical abuse, lack of education, poverty, or exposure to violence, may be associated with some traumatic brain injuries caused by violent actions. MOMBIS staff members researched the complex needs of people with violence-related TBI, with special focus on violent injuries in rural areas.

Project 5 - Study on rural TBI survivors

Rural Americans with TBI suffer from lack of access to a coordinated network of integrated services as they strive to recover from their injuries. Because most of the TBI survivors enrolled in MOMBIS were from rural areas, this research was to determine whether there are systematic differences among persons from rural settings as opposed to TBI survivors in urban areas. The MOMBIS staff also contributed data from a largely rural area to the National TBI Model System Database.

University of Missouri TeleRehabilitation Program

The University of Missouri-Columbia receives funding from NIDRR for purposes of providing follow up through telerehabilitation to brain injury survivors who receive psychological services while in acute rehabilitation programs, but often are unable to access the needed support in their local rural communities due to lack of coordination among inpatient and outpatient service providers. To address this need, the University of Missouri School of Medicine, Department of Physical Medicine & Rehabilitation, Rusk Rehabilitation Center/Health South, Missouri Telehealth Network and the National Institute on Disability and Rehabilitation Research have joined together to bridge the service gap.

The project uses state-of-the-art information technology and video teleconferencing to extend rehabilitation expertise to rural communities. One of the goals is to replace the reliance on urban specialists that weakens community health care infrastructure with a permanent rural network of brain injury services that enhances local communities.

When a TBI survivor who lives in a rural area is in inpatient rehabilitation, the project staff assess the survivor and family's goals and functioning, and generate recommendations for support after the survivor returns home. Staff then match the family to a community care provider. During the inpatient stay, a rural mental health provider from the survivor's community is identified and recruited to participate in training.

The neuropsychologist meets with the rural mental health provider for several training sessions using state-of-the-art teleconferencing equipment. When possible, the survivor and family meet the rural mental health provider over the telehealth network before the survivor returns home from the hospital. If the survivor and family need behavioral health services after returning home, there is a trained counselor, social worker, or psychologist in their local rural community to whom they can turn. In order to train as many rural mental health providers as possible in the need of persons with brain injury, the project extends training to larger groups of mental health providers through Missouri regional workshops.

Trends

An Telerehabilitation Interagency Task Force has been meeting to determine how telerehabilitation or telemedicine could be reimbursable by state programs and the federal Medicaid programs. The task force members have also been studying the viability of using this method for service delivery for a variety of situations.

In Summary . . .

Great gains have been made in Missouri in the areas of defining services and service needs, developing data capabilities, and prevention efforts. The federal TBI grants have helped to improve services through person centered planning, training of case managers, and collaboration among the state agencies. Some services have been more difficult to develop with regard to behavior issues, substance abuse and/or overlaying mental health issues. In addition, not all areas of the state have access to services. The trust fund bill that passed in 2002 provides the opportunity to address some of the gaps in service delivery through the dedicated funding.

In addition, the TBI interagency committee convened by the Missouri Department of Health and Senior Services is providing an ongoing mechanism for coordinating policies and services among the state service agencies in order to provide a more seamless system for individuals with traumatic brain injury.

References

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Kreutzer J, Serio C, Bergquist S. Family needs following brain injury: a quantitative analysis. *Journal of Head Trauma Rehabilitation* 1994;(3):104-15.

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Rehabilitation of Persons With Traumatic Brain Injury. NIH Consensus Statement Online 1998 Oct 26-28; [cited year, month, day]; 16(1): 1-41.

University of Missouri-Columbia, MOMBIS project and web page

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Department of Social Services, Division of Medical Services ♦ Comprehensive Day Rehabilitation Program	• 208.152 (20) RSMo • Program governed by Medicaid policy as stated by DMS in the provider manual and bulletins.	Goal-directed services with emphasis on functional living skills. Interdisciplinary approach with, depending on needs, these professions represented: clinical psychology/ neuropsychologist, occupational therapist, speech therapist, physician, rehab nurse and social work.
♦ Early and Periodic Screening, Diagnosis & Treatment (Healthy Children and Youth)	• 208.152 RSMo • Omnibus Budget Reconciliation Act of 1989 • Section 1905 (R) (5) of the Social Security Act	Screening, Diagnosis and Treatment services which can include: • Psychologist/Neuro-psychologist • Speech therapy • Physical therapist • Occupational therapy • Counselor: psychologist/social worker or licensed professional counselor • Case management (BSHCN) • Private Duty Nursing
♦ Therapies/ Counseling	208.152 RSMo	• Psychologist/Neuropsychologist • Counseling • Speech therapy • Occupational therapy, device • Physical therapy
♦ Physical Disabilities Waiver (Private Duty)	1903(c) of the Social Security Act – Model Waiver	• Private duty nursing services (medically necessary) TCM – Targeted Case Management

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Must be Medicaid eligible	• Services must be provided in a free standing rehabilitation center or in an acute hospital setting with space dedicated to head injury rehabilitation. • Providers must be approved by Division of Medical Services • Limited to one year	General Revenue Federal (Medicaid)	• Definition of "recent" is 5 years or less post injury • No increase in per diem since 1989, $110 for full day; $65 for half day • Authorized for 6 mos., may be extended to 1 yr. with justification
• Must be under 21 • Medically necessary • Must be Medicaid eligible		General Revenue Federal (Medicaid)	Health care services identified under the EPSDT program as being "medically necessary" for eligible children must be provided even if not part of the state plan as a covered service. State is required to inform all Medicaid eligible children under age of 21 that services are available. State is required to set distinct periodicity for screening dental, vision and hearing services.
Must be Medicaid eligible	• Psychologist/neuropsychologist only covered only in a Federal Community Health Center or Rural Health Center • Counseling only covered in a Federally Qualified Health Center or Rural Health Center • Speech therapy covered only in conconjunction with adaptive equipment (artificial larynx) • Occupational therapy if prosthetic device	General Revenue Federal (Medicaid)	These services apply to individuals over age 21 who are not receiving therapies under the comprehensive day rehabilitation service. A waiver program may offer therapies above and beyond this scope, such as the Home and Community-Based Waiver for Mental Retardation and Developmental Disabilities.
Must have received or been eligible to have received private duty nursing services under EPSDT program also known as Health Children and Youth.	• Waiver required for services provided to over age 21. • 18 points level of care plus medical criteria must also be met.	General Revenue Federal (Medicaid)	For over age 21, be cost cost effective to off set ICF-MR placement costs. Currently approved for 32, serving 25.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
♦ Independent Living Waiver		• Personal care • In-home modifications
♦ Community Psychiatric Rehabilitation (CPR)	208.152 RSMO 9CSR30-4.030-4.047	Core Services: •Intake and annual evaluation •Crisis intervention & resolution •Medication services/administration •Consultation services •Community support •Psycho-social in a non-residential setting
♦ Comprehensive Substance Treatment and Rehabilitation (C-STAR)	208.152 RSMo 9CRS30-8.820-3.900	• Intake assessment • Day treatment • Individual counseling • Group counseling • Family therapy • Codependency counseling • Group education • Community Support
♦ Mental Retardation / Developmental Disabilities Waiver		• Therapies • Respite • In-home modfications • Residential • Day Program • Transportation • Supported employment follow-along • Personal Care
♦ Personal Care Services (In home)	DMS at 13 CSR-70 - 91.010 208.152 (18) RSMo	

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
•Eligibility determined by Vocational Rehabilitation. •Individuals with physical and cognitive disabilities. •Must meet NF 18 point criteria. •16-64 years old.		General Revenue Federal (Medicaid)	• Self-directed care • Administered by Centers for Independent Living • 493 slots
Serious and substantial limitations to function due to psychiatric disorder. Diagnosis primary DSM or ICD, may coxist with other psychiatric diagnosis in Axis I.		General Revenue Federal (Medicaid)	Program administered by DMH.
•Diagnosis of substance abuse or dependency including all axes as defined in DSM •Absence of need for detoxification •Lack of mental, physical, social or environmental complications •Does not present likelihood of physical danger to self or others •Resides in or access to a living environment which does not place in imminent danger.		General Revenue Federal (Medicaid)	Program administered by DMH. Missouri Rehabilitation Center operates a C-STAR program for individuals with cognitive disabilities.
• Must meet the definition for developmental disabilities. • ICF-MR level of care.		General Revenue Federal (Medicaid)	Program administered by DMH.
• Services must be medically necessary. • Elderly and individuals with disabilities.	• Limited to approximately 120 hours per month, may not exceed cost of nursing home. • For children not limited to a percentage of NF reimbursement. • Limited to 60% of the NF cap for regular Personal Care and 100% for Advanced Personal Care for recipients over 21 years of age.	• Medicaid • Social Services Block Grant • General Revenue	• Can receive Personal Care Services while attending the Comprehensive Day Rehab Program, but not during the same hours. •Authorized by Division of Senior Services case managers

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
♦ Non Emergency Medical Transportation (NEMT)	• 42CFR431.53 • 42CFR440.170 • 208.152RSMo	Transportation
♦ Nursing Facilities Nursing home (Medicaid)	•CFR-483.100 – 138 •208.152 (4) RSMo •	Vendor Nursing Care
• Supplemental Nursing Care Program (cash grant)	208.030 RsMO	Cash payment
♦ **Department of Social Services, Division of Family Services** ♦ Rehabilitation Services for the Blind	13 CSR 40-91.020 (vocational rehab) Rehab Act of 1973, as amended 207.101, 207.020, 209.010, 209.020 RsMO 13 CSR 40.91.030 (prevention) 13 CSR 40.91.010 (business enterprise) Randolph Sheppard Act, as amended 8.051 and 8.700-8.745 RsMO	Vocational Rehabilitation • Diagnosis and evaluation • Counseling and guidance • Physical and mental restoration • Training, including college or university, technical or trade school • Job development and placement • Rehabilitation engineering • Follow-up services Independent Living Rehabilitation • Teaching of alternative techniques in activities of daily living • Communication skills • Homemaking activities Business Enterprise Program Prevention of Blindness Employer Services • On-site job task analysis, placement consultation on ADA, etc. Assistive technology Children's services Transition services

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
	NEMT is covered for all Medicaid recipients for Medicaid covered services, except Comprehensive Rehabilitation Program for all ages.		Interagency agreement between DOSS and DOHSS to provide trnasportation for Comprehensive Day Rehab.
• Medicaid or General Relief • The recipient has been screened under the Missouri Care Options Process. • Has been screened for a mental impairment and found appropriate for nursing home services under PASARR.* • Meets level of care as determined by Division of Aging. • Resides in a Title XIX Cerified bed.		Medicaid General Revenue (match)	Individuals injured prior to* age 22 are screened by Department of Mental Health (Pre-Admission Screening & Annual Resident Review) to ensure appropriate placement for services needed.
• Division of Family Services Guidelines	Reside in nursing homes licensed by Division of Aging, (but not Medicaid) often referred to as residential care facilities.	General Revenue	• Being eligible for cash payment allows recipients to be eligible for Medicaid services.
• Legal blindness or other severe visual impairement; • Physical or mental impairment that creates a substantial barrier to employment; & • Vocational rehabilitation services are required.		General Revenue Federal Funds (Rehab Act) Blind Pension Fund	Eight (8) district offices. Will serve individuals with TBI if the person also has visual problems.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
♦ Income Maintenance & Self Sufficiency Programs:		
• Temporary Assistance (formerly AFDC)	208.040 RSMo	Cash to needy families with children so they can be cared for in their own home and reduce dependency
• Food stamps	205.960 RSMo	Groceries/Food allotment based on USDA "Thrifty Food Plan"
• Child care services	208.400-208.444 RSMo	Reimbursement to parents or direct payment to eligible child care providers to assist families with child care to allow parents to work or attend school/training.
♦ Low income energy assistance	660.100 (Utilicare Program)	Financial assistance for heating bills.
Department of Health and Senior Services, Division of Maternal, Child and Family		
♦ Bureau of Special Health Care Needs--Children with Special Health Care Needs	• 201.101.130 RSMo • 19CSR-40-1.010 to 40-1.080	• Acute Care/inpatient services • Emergency Care • Outpatient services • Psychologist* • Speech therapy* • Physical therapist * • Occupational therapy* • Psychologist • Nutritionist • MSW* • Durable medical equipment** • Medical Supplies
♦ Bureau of Special Health Care Needs--Healthy Children and Youth (EPSDT-Medicaid)	• Cooperative agreement between DOHSS and Division of Medical Services (Medicaid) to administer program • 208.152 RsMO	Private Duty Nursing* Personal Care Aid Advanced Personal Care Home Health Skilled Nursing Home Health Aire Therapies, exceeding 5 times a week Medical Supplies over $300 monthly Augmentative/communication evaluations

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Financial eligibility	•Able body recipients must work or be in work activities. •Receipt of cash assistance is restricted to a lifetime of 5 years. •Individual must work a minimum number of hours.	Federal Block Grant (TANF-Temporary Assistance for Needy Families)	
• Based on income (for persons with a disability must have gross income equal or below 165% of poverty). •Complies with Missouri Employment & Training Program Requirements. For children of recipients of Temporary Assistance and children of low income families working or enrolled in job training programs.		USDA	
Based on income and family size and available resources.		General Revenue	
Based on the following: • Medical diagnosis • Financial eligibility (does not exceed 185% of federal poverty level) • Must be less than 21 years of age	*evaluation requires prior authorization **prior authorization needed if purchase/repair exceeds $500 or more	• General Revenue • MCHB Block Grant	• CSHCN participants must apply for Medicaid. • CSHCN will be billed only after 3rd party sources have been satisfied. • Participants exceeding the financial eligibility may continue to receive service coordination.
• Less than 21 years of age • Must be Medicaid eligible	*Services authorized by the Bureau of Special Health Care Needs	General Revenue Federal (Medicaid)	Respite services are not a covered service. Bureau reimbursed under Medicaid for administrative case management and skilled professional medical staff provided by the Bureau of Special Health Care Needs.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
♦ Bureau of Special Health Care Needs--Service Coordination-Head Injury	• 199.003 RSMo • 192.735 RsMO (definition of head injury) • BSHCN Policy (7.7.4) • Department policy established age served of 21+	Service Coordination includes: • Evaluation and assessment of needs • Information and education about the cause and effects and preventing secondary conditions • Development of a service plan • Assistance in locating and accessing resources
♦ Bureau of Special Health Care Needs--Head Injury Rehabilitation Services	• 199.003 RSMO • Provider Manual • Legislature set financial criteria through appropriations (instruction), not law • Department policy established age served of 21+	• Comprehensive Day Rehabilitation • Physical Therapy • Occupational Therapy • Speech Therapy • Transportation • Neuropsycholobical Evaluation and consultation • Behavioral Assessment and consultation • Adjustment counseling • Transitional home and community support • Pre-vocational/pre-employment training • Supported employment/follow-along • Special instruction (tutoring/instruction for college courses, GED preparation driver's license, etc.) • Recreation activities • Respite

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
• Age 21 + • Medical documentation • No financial criteria • Meets state definition for head injury or traumatic head injury: " a sudden insult to the brain or its coverings, not of a degenerative nature. Such insult may result in a decrease of one or more of the following: mental, cognitive, behavior or physical disability. Cerebral vascular accidents, aneurysms and congenital deficits shall be specifically excluded from this definition."		General Revenue	Department of Health and Senior Services receives Medicaid reimbursement for administrative case management. Service coordinator is the entry point for the Head Injury Program. The program uses person centered approach to service delivery.
• Age 21 + • Medical documentation • 185% of poverty • Meets state definition for head injury or traumatic head injury (see above)	• Comprehensive Day Rehabilitation: one year in duration, 5 days a week • Therapies (physical, occupational and speech) may not be a component of another department or Medicaid program already being funded. • Transportation: to and from services funded by the department or Medicaid (for clients over 21) only if needed. • Adjustment counseling services: limited to 26 one-hour sessions, lifetime. Cannot be billed separately for those individuals receiving counseling services as a component of another program. • Supported employment/follow-up: must have completed the Division of Vocational Rehabilitation supported employment program and hours may not be greater than the hours received at the time of completion of the vocational rehabilitation training. • Recreation: limited to 5 days a week. • Respite: limited to 80 hours per state fiscal year, may not be provided by a family member who resides in the home.	General Revenue	Payor of last resort, must apply for Medicaid first. Services require prior approval/authorization. Service needs must be reflected in the service plan. Department receives Medicaid match for non-emergency transportation. Pre-vocational services are provided when not eligible for services through the Division of Vocational Rehabilitation and has the capacity for potential employment.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Department of Mental Health	• 630.005 RSMo (definitions) • 630.210 RSMo (authorizes standard means testing and charging for services) • 630.210 RSMo (establishes placement program for mental disorders, mental retardation, mental illness, developmental disabilities, and alcohol and drug abuse.) • 630.405 RSMo (authorizes the departmental to purchase services)	
Division of Mental Retardation and Developmental Disabilities	• Chapter 633 RSMo (establishes division, services provided, facilities, etc.)	
♦ Regional Center	• 633.100 RSMo (authority to establish regional centers) • 633.105 RSMo (entry and exit points to the division service delivery system) • 633.110 RSMo (services offered)	Any person suspected to be mentally retarded or otherwise developmentally disabled shall be eligible for initial diagnostic and case management services. Services may include, but not limited to: • Diagnosis and evaluation • Counseling • Respite • Recreation • Habilitation • Training • Vocational habilitation • Residential care (group homes, individual supported living, etc.) • Homemaker services • Developmental day care • Sheltered workshop • Referral • Placement • Transportation
	• CFR 435.1009 Federal (ICF-MR Residential Facilities)	Intermediate Care Facilities for Mental Retardation (residential)
	Section 1915(c) of the Social Security Act 208.152.1 (22) RSMo	Home and Community-Based Services (Medicaid Waiver): therapies, day habilitation, transportation, respite, personal care, home modification, adaptive equipment, supported employment, independent support living) Sarah Jian Lopez Medicaid Waiver (support/services in the home in lieu of institutional/ICF-MR level of care).

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Meets state definition of developmental disabilities: (1) Categorical, includes head injury, mental retardation, cerebral palsy, et al. (2) has substantial limitations in 2 or more of 6 major life activitities, (3) likely to continue indefinitely, (4) reflects need for combination and sequence of special interdisciplinary, generic habilitation or other services which may be of lifelong or extended and duration, and (5) occurs before age 22.		General Revenue Federal (Medicaid) Division receives reimbursement from Medicaid for targeted case management services.	MOCABI is used to to determine functional abilities. All eligible persons are entitled to case management (Leake Decision). Funding is appropriated to the 11 regional centers, for staff, including case managers. Funding is appropriated to the division for for community services placement, which is then allocated to the regional centers.
Meets ICF-MR level of care.	• Waiver can not pay for residential services. • Can not exceed costs of ICF-MR residential facility.	Medicaid General Revenue Medicaid (General Revenue and local county mill tax are used for match)	The Missouri Planning for Developmental Disabilities is advisory to the division, and regional councils are advisory to the regional centers.
• Income and resources of child can not exceed Medicaid guidelines. • Meets ICF-MR level of care.	Services can not exceed costs of ICF-MR level of care.		

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
♦ Habilitation Centers (state operated)	• 630.005 RSMo (definitions)	Residential support and treatment
♦ Family Support Programs Cash and loan program	633.170 RSMo (creates family support stipend and loan program) 633.180 RSMo (cash stipend) 633.185 RSMo (family loan) 633.175 RSMo (community awareness of the family support program)	• Cash stipend/vouchers for goods/ services to benefit child at home. (ex. respite, attendant care, modifications) • Low interest loan for assisting families with a child with a developmental disabilities residing at home.
Missouri Consumer and Family Directed Supports	Authorized through appropriations	Empowers individuals and their families and helps them direct own services to meet their needs.
Choices for Families	Authorized through appropriations bill (H.B. 10, Section 10.415)	Funds/vouchers to families to obtain certain services not suitable or readily available through existing programs
Division of Comprehensive Psychiatric Services	• 630.005 RSMo (definitions includes mental disorder, mental illness) • Chapter 632 RSMO(creates the division) • 632.025 RSMo (authorizes services provided directly or through contracts)	
Civil Detention Procedures (mandated)	• 632.300	Mandated to evaluate persons, as the result of mental disorder, considered dangerous to self and/or others
Inpatient hospitalization	632.305 RSMo (involuntary commitment)	Diagnosis and treatment
Sexually Violent Predators	632.480 RSMo	Mandated to perform court-ordered evaluations and to provide treatment
Forensic Evaluation	552 RSMo (mandated service)	Pretrial evaluations for forensic clients.

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION • Child's condition must meet criteria set by Medicaid.
Individual with severe disabilities or behavior disorders, or who are medically fragile or who are court committed.		General Revenue Medicaid	Regional centers refer to habilitation centers/developmental disabilities treatment centers. Some beds are certified as Medicaid ICF-MR.
Families who have a child with developmental disabilities under age 18 living at home.	Monthly cash stipend can not exceed the maximum federal SSI payment for child with disability living at home.	General Revenue	Regional councils administers the program from resources provided by regional centers.
	Maximum amount of loan is $10,000 for 60 month period and for families who can not get a loan through traditional means.	General Revenue	
		General Revenue	Funding for family directed supports, Choices for families is appropriated to the division for distribution.
		General Revenue	
Meets state definition	Unless accompanied by mental illness, does not include mental retardation or other developmental disability or intoxication or senility.		Case management and crisis services are provided to all persons eligible based on available resources.
Liklihood of serious harm to self or others.	Evaluation period not to exceed 96 hours.		Does not include organic brain disorder.
Considered dangerous to self or others.		General Revenue	
Alleged to be sexually violent predators or committed by the court as such.			
Those found by court to be incompetent to stand trial, committed by the court as Not Guilty By Reason of Insanity, those who are granted conditional releases by court.			

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Division of Comprehensive Services Cont.		
Day Treatment/Partial Hospitalization		•Vocational education •Rehabilitation services •Educational sServices •Developing supportive medical and social work services
Outpatient Services	9 CSR 30-4.100 through 9 CSR 30-4.190 Certification Standards	May include individual counseling and therapy, medication services, crisis intervention, respite care, integrated supported employment, case management and other services.
Supported Community Living	630.605 RSMo	Includes housing and associated costs, personal spending, medications, and mental health treatment services. Living arrangements may include apartment living, residential care facilities, nursing facilities, group homes, residential treatment facilities and therapeutic foster homes.
Targeted Case Management (Adult)		

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Must have a DSM IV diagnosis		General Revenue	
DSM IV diagnosis		General Revenue	Separate appropriations for children and adults. Access to services is through administrative agents or Fulton State Hospital or SEMO Mental Facility depending on the region.
Adults with SMI with DSM IV Axis I or II diagnosis, excluding V codes.	Must be provided under the direction of a QMHP, who approves treatment plan. Can not receive both CPR services and targeted case management	Medicaid	Must meet one of these criteria: Has been discharged from an inpatient hospital for psychiatric treatment within 30 calendar days; or has had at least 2 periods inpatient psychiatric hospitalization within previous 12 mos.; meets criteria for inpatient care and will be diverted through use of intensive community-based treat ment; or has been conditionally released; or is a client of supported community living program; or are identified through the Access Crisis Intervention System. *For children and youth up to age 20:* Currently participating in a Families First or Extended Families First Program; or

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Division of Comprehensive Services Cont.		
Community Psychiatric Rehabilitation (CPR) (Medicaid state plan service)	208.152 RSMo	• Intake and annual evaluation •Crisis intervention & resolution •Medication services/administration •Consultation services •Community support •Psycho-social in a non-residential setting
Respite		Temporary care given to an individual by specialized trained providers for purposes of providing a period of relief to the primary care giver.
Additional Children Services		
Families First		In-home family preservation service for children with emotional disturbances to help families who are dealing with crisis to maintain the child at home.
Extended Families First		Intensive, 3-6 months home in-home for children with serious emotional disturbances who return to community from inpatient or residential facilities. Assist in the reunification of a child with the family, school and community.
Wrap Around		Flexible, short-term, time limited funding to meet the unique situation or crisis needs of families with children with serious emotional disturbances.
Treatment/Family Home		Licenses private family residences to provide specialized, 24 hour support, case management and out-of-home care for youth with serious emotional disturbances.
Department of Elementary and Secondary Education **Division of Special Education**		
♦ Child Count/Census	Federal Law (IDEA)	Collects data reported by school districts with regard to children with disabilities.

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
			admitted to a DMH psychiatric inpatient facility, residential or Treatment Family or intensive day treatment partial hospitalization program; homeless/seriously disturbed or through Crisis Intervention System.
Adults with severe mental illness; childrenand youth with severe emotional disturbance. Priority populations. Medicaid eligible.	Adults can not concurrently receive both CPR and targeted case management services from a single provider agency without prior approval.	Medicaid	Services are prioritized. Clear evidence of serious and or substantial impairment in ability to function in two areas of behavioral functioning.
Children with emotional disturbances who return to community from inpatient treatment	3-6 months		
			1990 reauthorization of IDEA requires school districts to report the number of students with TBI receiv- special education services.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Division of Special Education Cont.		
♦ First Steps		Early intervention services, may include: • family training, counseling and home visits • special instruction/developmental therapy • speech/language therapy • physical or occupational therapy • psychological services • service coordination • medical services for diagnosis/evaluation • social work/counseling services • health services • transportation services • audiology services • nursing services • nutrition services • vision services • assistive technology devices and services
♦ Public School Education (Free and Appropriate Public Education)	162 RSMo	Special education and related services; transition services
♦ State Schools for the Severely Handicapped	162.730	Full range of educational services in accordance with a child's IEP.
♦ Sheltered Workshops	178.900 RSMo	Certifies sheltered workshops, which offer extended employment to indivi- with severe disabilities.

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Children birth to 3 with developmental delays, or developmental disabilities or		Federal Special Education Law (IDEA), Part C	DESE is lead agency (Four state agencies collaborate: DOSS, DMH, DESE and DOSS). Referrals are through regional centers for the developmenally disabled and Bureau of Special Health Care Needs. Part B money is also used to help with transitioning to pre-school.
Children with disabilities 3-21.		Federal (IDEA)	Responsible for state plan for special education and related services (state agencies, charter schools, state and local juvenile and adult correctional facilities)
Children 5-21 with severe disabilities.		General Revenue	Local school districts refer children when unable to meet child's educational needs and justification for placement in segregated school. (Also operates State School for the Blind and School for the Deaf.)
Adults with severe disabilities		General Revenue	Division of Vocational Rehabilitation evaluates and certifies worker, but federal rehabilitation law does not count sheltered employment as successful job placement. Sheltered workshops are non profit organizations, can also receive private funding and contract work.

State Service Matrix

DEPARTMENT	STATE/LAWS/REGULATIONS/ POLICY	SERVICES OFFERED
Department of Elementary and Secondary Education, Division of Vocational Rehabilitation		
♦ Basic Vocational Rehabilitation Services	Rehabilitation Act of 1973, as amended	• Work evaluation and adjustment • Job training • Vocational guidance and counseling • Transportation allowance • Equipment for work • Assistive devices • Interpreter services • Extended employment
♦ Personal Care Assistance (state program)	178.669 RSMo	Self-directed personal care
♦ Personal Care Assistance (Medicaid Waiver)		Self-directed care, in-home modifications
♦ Independent Living Centers	178.651-178.658 RSMo Rehab Act of 1973, as amended	• Information and referral • Independent living skills training • Peer counseling • Individual and systems advocacy
♦ Disability Determination		

ELIGIBILITY	LIMITATIONS	FUNDING	OTHER INFORMATION
Persons with substantial physical or mental disabilities that results in an impediment to employment.		Federal, state match	Vocational rehabilitation counselors have been designated as TBI counselors in most of the district offices. Services are purchased through providers.
Physical disability		General Revenue	State program is also being used for state match for those who are Medicaid eligible. Program administered through centers for independent living.
Physical or mental disability, including cognitive disability	Overall program must cost less than if the individuals were re-nursing home or institutional care.	Medicaid (state match)	Individuals must have exceeded the level of services allowed under the state plan service. Program administered through the centers for independent living.
Individuals with a disability.		Rehab Act of 1973, as amended; General Revenue	Centers must be administered by a majority of individuals with disabilities. There are 21 in Missouri.

Appendices

goals and objectives

chronology

Missouri Head Injury Advisory Council Members

Fiscal Year 2001 Goals & Objectives

Issue 1: Prevention is the only cure to head injury

Goal: To prevent and reduce the number of traumatic brain injuries

Objectives:

(1) To reduce the number of playground injuries in central Missouri

Progress: Finalized playground safety project manual and materials. The 4-H clubs in Mid-Missouri began piloting the project. The project was featured during the annual council conference and the Governor proclaimed playground safety awareness week in April.

(2) To reduce the number of injuries relating to traffic safety in Missouri through state legislation

Progress: The council opposed the repeal of the motorcycle helmet law, which did not pass, and supported efforts to reduce blood alcohol content level from .10 to .08 for DWI, which did pass. The council and the Brain Injury Association of Missouri co-sponsored a public policy workshop September 2001. Information and data was provided regarding injuries relating to traffic crashes.

(3) To reduce the number of injuries relating to the elderly

Progress: Council voted to convene a task force to study and make recommendations for reducing injuries among the elderly.

(4) To reduce the incidence of TBI in rural counties where there is over-representation

Progress: The council member representing the Department of Health and Senior Services submitted registry data at the direction of the council to the Division of Highway Safety and Department of Transportation recommending that federal alcohol incentive money support projects in areas of the state with higher incidence of traffic fatalities and injuries as the result of crashes involving drinking and driving. Council staff and member are participating on the Department of Health and Senior Services Injury Prevention Committee that is developing a report of the status of injuries by county and statewide along with recommended strategies for interventions.

(5) To increase state and local capacity for directing prevention efforts

Progress: The council arranged testimony to support state funding to revitalize the injury prevention program. New funding was not appropriated, however, the director of the Division of Maternal, Child and Family Health reorganized staff in order designate a staff person for this program. The department plan includes injury prevention goals.

Issue II: Availability of rehabilitation, long term care and community support services

Goal I: To link families to services and information

Objectives:

(1) To increase availability of materials for families and individuals with traumatic brain injury

Progress: The Department of Health and Senior Services Head Injury Program staff and councils staff updated and the department reproduced the family packets and guide, which was rewritten to a lower grade reading level. 10,000 packets were printed and are available for distribution.

Council staff assisted with the development of a fact sheet on TBI, produced by the National Association of State Head Injury Administrators (NASHIA), and distributed the fact sheet to all hospital emergency departments for distribution to individuals seeking care through the emergency department with a concussion/mild brain injury. The fact sheet is available from NASHIA and is on both the NASHIA website and the University of Missouri Instructional Materials Lab website.

(2) To increase/maintain capacity for support to families at the time of hospitalization

Progress:

As the result of the TBI grant to the Department of Health and Senior Services, the Missouri Support Partner Project was transferred to the Brain Injury Association of Missouri who agreed to administer the program. At the end of the grant period, September 30, the University of Missouri-Kansas City will finalize the evaluation of the project and to develop a manual for implementing and administering this type of program. The project staff conducted a workshop on the program during the 2001 annual council conference.

Co-sponsored and agreed to participate in the Missouri Planning Council for Developmental Disabilities 3rd Bi-Annual Parent to Parent conference scheduled during the summer of 2001.

(3) To increase capacity for outreach to minority communities

Progress: Through the federal TBI grant, the department contracted with the University of Missouri-Kansas City to translate head injury guide and brochure(s) into Spanish and to conduct focus groups with minority populations to determine how to best provide outreach and services.

(4) To transition families/individuals with TBI to services appropriately

Progress: Through the TBI grant, meetings were held with the Department of Health and Senior Services head injury service coordinators throughout the year to review functions of providing service coordination, including outreach, and developing plans that reflect short-term, long-term and transitional goals.

Goal II: To develop service capacity for extended/maintenance rehabilitation for persons following hospitalization

Objective: **(1) To increase rehabilitation coverage under insurance/Medicaid**

Progress: The council voted to convene a task force to develop recommendations for improving rehabilitation coverage.

Goal III: To meet the needs of individuals with behavior issues

Objective: **(1) To appropriately provide services to individuals with TBI and behavior issues.**

Progress: One of the activities was to identify and develop referral list of professionals with TBI and behavior rehabilitation experience and expertise. The Division of Comprehensive Psychiatric Services was to survey psychiatrists either employed by or under contract with the division to identify their expertise, which the division reported that it had done, but did not identify anyone. The University of Missouri TeleRehabilitation Training Program has trained mental health professionals in rural areas. That list of trained professionals has been made avaialbe to the head injury service coordinators and the regional center TBI resource case managers.

The Department of Health and Senior Services and the Department of Social Services, with input from the council and other agencies, developed a proposal for a TBI Home and Community-Based Medicaid Waiver which included neurobehavioral services. The department requested an appropriation for the state match for the waivers, but the appropriation was not funded.

Goal IV: To support individuals with TBI in the community

Objective: **Increase capacity for community supports and expand choices through TBI Community-Based Medicaid Waiver and other programs**

Progress: In order to prepare the application for a TBI Home and Community-Based Medicaid Waiver, the Department of Health and Senior Services head injury program surveyed the number of individuals with traumatic brain injury and assessed their needs with regard to the necessary services and supports to live in the community. The waiver was drafted, but funding was not appropriated for the waiver. The council and the Brain Injury Association of Missouri did testify before the House Appropriations in support of funding for the waiver.

The council staff and a council member testified before the Governor's Olmstead Commission with regard to the need for community services for individuals with traumatic brain injuries and participated on Commission committees to draft a state plan for community-based services for individuals with disabilities. The General Assembly passed legislation authorizing a housing trust fund and a provision for Medicaid "Buy In" to all individuals with disabilities who are employed to buy Medicaid coverage.

Senator Morris Westfall drafted an amendment to the DWI legislation establishing a trust fund for transitional and community supports, family counseling and mentoring, specifically for individuals with brain injury. The amendment was supported in the Senate, but was not accepted by the House.

The council served as an advisory body to the University of Missouri-Columbia TBI Model Systems project to improve community-based, natural support systems (Community Links Project).

(2) Increase untilization of services through informed choice

Progress: Information regarding the self-directed personal care waiver program and the centers for independent living were added to the council web page. A case managers manual, to include information on services, choice, and person centered planning, has been drafted, but not finalized. The council conference included workshop sessions on person centered planning, natural and community supports.

Goal V: To successfully employ individuals wih TBI

Objective:

(1) To identify barriers to employment

Progress: Dr. Brick Johnstone, Principal Investigator of Missouri Model Brain Injury System project, presented his research findings to the council during its regular meeting and to the participants of the 16th annual council conference with regard to his work with the Missouri Division of Vocational Rehabilitation. His studies indicate that persons who receive vocational guidance and on-the-job training are 12-14 times more likely to be employed than persons who don't receive these services, however individuals from rural areas have more difficulties finding employment than persons in urban areas.

Goal VI: Children with TBI receive appropriate educational services

Objectives:

(1) To identify children with TBI in schools

Progress: CISE, Division of Special Education, and RR&T Center for Community Reintegration of TBI, New York, are finalizing the educator curriculum with the first module of the three part training offered in the fall of 2000 and spring of 2001. Exhibited at special education conferences and provided resource information.

(2) To increase knowledge of families with regard to special education issues

Progress: Information was included in the family packets that were revised and is made available to hospitals and rehabilitation facilities. Families participated in the educational training workshops sponsored by CISE.

(3) To transition/link families/children to appropriate services

Progress: Supported the development of protocols for the Bureau of Special Health Care Needs to assist with serving children with TBI, however a protocol was not developed.

Goal VI: To expand services based on evaulation data.

Objective: **(1) To develop state plan based on evaluation of needs and outcomes**

Progress: Through the TBI federal grant to the Missouri Department of Health and Senior Services, the department contracted with Chris Rinck, Ph.D., University of Missouri-Kansas City, to assist with developing program evaluation outcomes. She revised the department's consumer satisfaction questionnaire for participates receiving services through the department's head injury program to complete and assisted with the assessment tool used by the head injury service coordinators, which has been integrated into department's data informational system.

Council staff assisted the department head injury program manager in developing a grant proposal submitted in July to develop a single application form for use by state agencies that would also provide a mechanism for identifying the types of services requested and provided through the various state agencies.

The department program, housed in the Division of Maternal, Child and Family Health, Bureau of Special Health Care Needs, routinely reported to the council providing information on the numbers served by the department, services provided, location of service providers, and so forth.

Issue III: Professional Development/Education

Goal 1: To increase the numbers of professionals and direct care staff with expertise in TBI

through in-service training and opportunities for professional development.

Objectives: **(1) To increase competency/knowledge of families/survivors, professionals and providers**

Progress: Council sponsored its 16th annual statewide conference May 21-23, 2001, which attracted over 200 participants. The council also exhibited information on traumatic brain injury at the following conferences:

- Missouri Association of County Developmental Disabilities Services
- Primary School Conference
- School Health Conference
- AAMR Conference
- Power Up sponsored by the Missouri Assistive Technology Council

(2) To develop core competencies for direct care providers under contract with the Missouri Department of Health and Senior Services

Progress: The project for developing core competencies for direct care providers was funded through the TBI grant funded to the Department of Health and Senior Services, and co-directed by the council staff. The department contracted with the University of Missouri-Columbia, Instructional Materials Lab, to develop the project. To assist with the development of the core competencies a focus group was invited to meet to provide initial in put. The focus group was comprised of providers, both those specializing almost exclusively in traumatic brain injury and those who serve primarily persons with other disabilities; family representation; consumer representation; and other state agencies. The resulting draft was shared with the head injury service coordinators for input and will be shared with the council during its September meeting.

(3) To increase availability of materials on TBI

Progress: The council staff was primary author of the NASHIA (National Association of State Head Injury Administrators) PowerPoint® Presentation on TBI and public policy, and assisted with the development of three fact sheets produced by NASHIA as the result of a contract with the U.S. Health Resources and Services Administration. The three fact sheets are on TBI and vocational rehabilitation and employment; Medicaid; and emergency medical services and mild brain injury. They were made available for the first time during the annual council conference held in May. The council staff also mailed EMS fact sheet to each hospital emergency department along with information about the family packets and the Missouri Support Partner Program. The head injury packets and guide were updated and reprinted. The head injury guide, along with some brochures, has been translated into Spanish and is read for printing.

(4) To increase knowledge of TBI and service delivery of case managers/ service coordinators

Progress: The council staff has drafted a case managers guide.

Fiscal Year 2002 Goals & Objectives*

*The Missouri Head Injury Advisory Council revised its mission statement March 25, 2002, and finalized its goals for Fiscal Years 2002-2003 May 20, 2002. These goals are not in priority order. Many of the goals and objectives are ongoing efforts and reflect activities of current and past grant projects.

MISSION STATEMENT

The Missouri Head Injury Advisory Council is appointed by the Governor to promote head injury awareness and prevention; and to review, study, and recommend policies to prevent traumatic head injuries, and to restore and optimize independent and productive lifestyles after traumatic head injury. (revised and adopted March 25, 2002)

GOALS & OBJECTIVES

Goal I: Increase public awareness about traumatic brain injury

Objectives:

(1) To improve community awareness of TBI

Progress: Developed/participated in awareness campaigns: Idea Sampler for October Brain Injury Awareness Month; Governor's Proclamation; and assisted with planning for Injury Prevention Committee public awareness campaign to promote collaboration at the local level for community awareness. The council, Brain Injury Association and Missouri Department of Health and Senior Services purchased the film, *Faces of Brain Injury*, produced by the Brain Injury Association of Florida, and added the name and phone number of the three Missouri agencies to the film. The department distributed copies to the head injury service coordinators for promoting awareness in the community and among professionals.

(2) To increase TBI awareness to school children, parents, and others

Progress:

(3) Increase awareness of the Missouri Head Injury Advisory Council and problems associated with TBI

Progress: Redesigned council web page and added additional information and links; provided testimony before legislative committees, sponsored annual statewide conference, participation/collaboration on other interagency/disability committees/taskforces,

participation in other disability statewide conferences (exhibits, presentations), and disseminated materials on TBI as requested.

Goal II: To optimize services for individuals with traumatic brain injury and their families

Objectives:

(1) To improve early identification and linkages to services to improve outcomes

Progress: Staff co-directed TBI Grant to the Missouri Department of Health and Senior Services Head Injury Program, and the council served in an advisory capacity, for purposes of establishing one application for state services and an automated referral system through internet. The working group established to review application processes used by state and federal programs issued a preliminary report recommending a pilot project with hospital/rehab to develop discharge protocols that include referral to service coordinators. A new grant is to be submitted August 3, 2002, to improve linkages.

(2) To increase service capacity in rural areas, including transportation and employment services

(3) To increase service options for individuals with TBI and behavioral issues

a. Establish an emergency shelter for those with behavioral problems related to brain injury.

Progress: The council staff arranged for a speaker (council member), and participated, in two workshop sessions on TBI during the annual Spring Institute sponsored by the Department of Mental Health. Subsequently, one of the attendees contacted the Department of Health and Senior Services Head Injury Program to enroll as a new provider offering mental health services.

(4) To increase/expand and maintain programs/methods that offer family support

Progress: Legislation passed establishing the Head Injury Trust Fund which will provide funding for family counseling and mentoring, as well as other short-term supports to enable transition to community and community integration.

(5) To increase rehabilitative/medical coverage

a. Increase access to inpatient and outpatient rehabilitation services.

(6) To increase services and supports for community living

a. Address issues of aging for individuals who may need additional assistance and their "natural" support begin to diminish.
b. Establish funding supports for independent living arrangements, personal care, and other services, including an "emergency fund".
c. Establish a facility for persons who are not ready to live independently in the community.

Progress: Legislation passed establishing trust fund legislation to pay for services that may not be available through other state programs to support community living and integration.

(7) To integrate services provided by TBI agencies

a. Create a central conduit of information to coordinate communication
b. Develop single intake form; integration of paperwork across state agencies
c. Develop outcome data to support/develop service delivery
d. Develop strategies/plan for interagency collaboration at local level to support array of services.

Progress: Through the TBI grant, develop and facilitate single intake information to be gathered and shared across agencies. Participated in the e-government project to develop data dictionary and methods for state agencies to obtain information through technology.

Goal III. To reduce the number of individuals injured each year

Objectives:

(1) To establish public safety (injury prevention) as a state priority

Progress: Partnered with the Injury Prevention Committee, Department of Health and Senior Services, to develop strategies for public awareness and support by the administration to address injury prevention as planned through the project, *Injuries in Missouri: A Call to Action.*

(2) To reduce the number of injuries related to traffic safety.

Progress: Opposed legislation filed to repeal the motorcycle helmet law, which did not pass. Provided/arranged testimony on legislation regarding open container, child safety seats, primary seat belt law, and motorcycle helmet repeal bills. None of these bills passed.

Goal IV: To increase knowledge about traumatic brain injury and best practices

Objectives:

(1) To increase opportunities for training and information on TBI and available resources

a. Training opportunities for direct care staff
b. Training opportunities for case managers
c. Training opportunities for social workers

Progress: Sponsored annual conference May 20-22, 2002, with around 190 people attending. A pre-conference session was held addressing core competencies developed for Direct Care Workers with regard to brain injury, disability legislation, compensatory strategies, and so forth. Exhibited and/or presented at these conferences:

- People First
- Parent to Parent Conference, sponsored by the Missouri Planning Council for Developmental Disabilities
- Missouri Model Brain Injury System
- PARAdise (special education paraprofessionals)
- Missouri Federation Teachers and School Related Personnel
- School Health Conference
- Public Administrators-Central Region
- Missouri AAMR (American Associatio of Mental Retardation)
- Power Up, sponsored by Missouri Assistive Technology Council
- Department of Mental Health Spring Institute

(2) Increase awareness and understanding of TBI among employers

FY 2003 Goals & Objectives

Goal I: **Increase Public Awareness About TBI**

Objectives:

A. Improve community awareness of TBI
B. Increase TBI awareness to school children, parents, and others
C. Increase awareness of MHIAC and problems associated with TBI

Goal II: **To Optimize Services for TBI Clients and Their Families**

Objectives:

A. Improve early identification and linkages to services to improve outcomes

B. Increase service capacity in rural areas, including transportation and employment services

C. Increase service options for individuals with TBI and behavioral issues

1. Establish an emergency shelter for those with behavioral problems related to head injury

D. Increase/expand and maintain programs/methods that offer family support

E. Increase access to rehabilitative/medical coverage
1. Increase access to inpatient and outpatient rehabilitation services

F. Increase services and supports for community living
1. Address issues of aging for individuals who may need additional assistance and their "natural" support begin to diminish
2. Establish funding supports for independent living arrangements, personal care, and other services, including an "emergency fund"

G. To integrate services provided by TBI agencies
1. Create a central conduit of information to coordinate communication
2. Develop/implement single intake form; integration of paperwork across state agencies
3. Develop outcome data to support/develop service delivery
4. Develop strategies/plan for interagency collaboration at local level to support array of services

Goal III: **To Reduce the Number of Individuals Injured Each Year**

Objectives:

A. To establish public safety (injury prevention) as a state priority

B. To reduce the number of injuries related to traffic safety.
   1. Oppose legislation that attempts to repeat the motorcycle helmet law
   2. Support legislation that enhances the safety belt law and child safety seats

Goal IV: **To Increase Knowledge About TBI and Best Practices**

Objectives:

A. To increase opportunities for training and information on TBI and available resources
   1. Training opportunities for direct care staff
   2. Training opportunities for case managers
   3. Training opportunities for social workers

B. Increase awareness and understanding of TBI among employers

Chronology

1983

- The Missouri Department of Elementary and Secondary Education, Division of Vocational Rehabilitation, assigned a vocational counselor in each district office with the responsibility of working with clients with head injury and began providing in-service training on head injury for DVR counselors.

1984

- The Missouri General Assembly passed Senate Concurrent Resolution 12 creating a Joint Interim Committee on Head Injury during the 1984 legislative session.

- The Joint Interim Committee on Head Injury held statewide hearings with assistance from the Missouri Head Injury Association of the National Head Injury Foundation.

1985

- The Joint Interim Committee on Head Injury issued the "Report and Recommendations" outlining the extent of and problems associated with head injury, lack of services, and recommendations for addressing the problems, including recommendations for prevention strategies.

- The Missouri General Assembly passed the mandatory seat belt law, with a sunset provision, which was signed by the governor March 5, 1985.

- Governor John Ashcroft created the Missouri Head Injury Advisory Council to plan and coordinate services by way of an Executive Order March 5, 1985.

- The Missouri General Assembly appropriated funding (state) in an emergency bill for staff and expenses for the Missouri Head Injury Advisory Council, which was assigned to the Missouri Office of Administration, and funding for Fiscal Year 1986 (beginning July 1, 1985).

- The Missouri General Assembly passed legislation changing the name and mission of the Missouri Chest Hospital, operated by the Missouri Department of Health, to the Missouri Rehabilitation Center (Mt. Vernon). A transitional living unit was created with state funding.

- The Missouri General Assembly appropriated state funding to the Missouri Department of Health for contractual services for persons with head injury for Fiscal Year 1986.

- The Missouri Head Injury Advisory Council held its first meeting September 1985.

- The Missouri Head Injury Advisory Council co-sponsored with the University of Missouri School of Medicine the conference "Head and Spine Injuries and the Epidemic of Trauma in Missouri," October 1985.

- The Missouri Department of Health and the Missouri Office of Administration, Division of Purchasing, issued Request for Proposals for head injury services with assistance from the Missouri Head Injury Advisory Council.

- The Missouri Department of Elementary and Secondary Education, Division of Special Education, assigned

central office staff to work with school districts which have students with head injury.

1986

- The Missouri Department of Health awarded contracts to seven agencies throughout the state for a variety of head injury services.

- The Missouri Head Injury Advisory Council defined "head injury" and head injury services and issued the report, *Proposed Service Delivery System for Rehabilitation of Missourians with Head Injury: Service and Program Definitions*.

- The Missouri General Assembly passed legislation to establish a head and spinal cord injury registry and to establish the Missouri Head Injury Advisory Council statutorily.

- The Missouri Head Injury Advisory Council conducted a survey of Missourians with severe head injury served by mental health, home health and nursing home facilities and agencies and issued a report of its findings.

- The Missouri Head Injury Advisory Council published its first newsletter, Quarterly.

- The Missouri Head Injury Advisory Council published its first annual report for FY'86.

- The Missouri General Assembly appropriated staff to the Missouri Department of Mental Health, St. Louis State Hospital, for a head injury unit for patients with head injury and aggressive/severe behavior problems for Fiscal Year 1987.

- The Missouri Head Injury Advisory Council held its first annual statewide conference on research, rehabilitation and service needs, "Head Injury: Meeting the Challenges".

1987

- The Missouri General Assembly passed legislation establishing a statewide trauma center system.

- The Missouri Department of Health appointed committee to develop the form for the head and spinal cord injury registry, trained appropriate hospital staff with regard to the completion of the form, and implemented the registry July 1, 1987.

- The Missouri General Assembly, at the request of the Missouri Department of Health, transferred the appropriation for contractual services to the Missouri Office of Administration, Division of General Services, and contracts were extended by the division.

- The Missouri Department of Elementary and Secondary Education published a manual, *Developing Individual Education Plans for Students Who Have Suffered Traumatic Head Injury: Procedural Guidelines*, to assist school districts with students with head injury.

- The Missouri General Assembly passed legislation allowing sheltered workshops to receive a portion of the state subsidy for employees with disabilities, including persons with head injury, who are unable to work a six hour day.

- The Missouri Attorney General issued an Opinion stating that a person with a head injury would meet the definition of "handicapped" in Section 205.968 RSMO, and, thus, a county mill tax for programs for persons with developmental disabilities or other handicaps could be used to fund programs for persons with head injuries.

- The Missouri Head Injury Advisory Council sponsored its second annual statewide conference, "Head Injury: Focus on the Future".

- The Missouri Head Injury Advisory Council included in its FY'87 Annual Report a state plan for developing a statewide service delivery system for persons with head injury and their families and developed one to five year goals and objectives for the council to undertake in order to obtain a service system.

1988

- The Missouri General Assembly passed legislation to expand the state Medicaid program to include comprehensive day services for post trauma patients.

- The Missouri Head Injury Advisory Council recommended and developed a statewide phone survey which was conducted by the University of Missouri-Columbia, School of Journalism, Bureau of Media Research, to determine the awareness and knowledge of the public with regard to head injury and the prevalence of head injury.

- The Missouri Department of Mental Health, Division of Mental Retardation and Developmental Disabilities received approval for a Home and Community Based Medicaid Waiver to allow federal Medicaid reimbursement for certain services for eligible clients to include some of the division clients or potential division clients with head injury.

- The Missouri General Assembly passed legislation which repealed the sunset provision of the seat belt legislation.

- The Missouri General Assembly passed legislation requiring persons under 18 to wear a helmet while riding an all-terrain vehicle (ATV); requiring persons under 16 to be supervised by an adult while driving an ATV; prohibiting ATVs on public roads and highways, except under certain conditions; and prohibiting passengers on an ATV.

- The Missouri Office of Administration, Division of General Services, and the Missouri Head Injury Advisory Council held a public hearing to obtain input for service priorities for head injury contracts.

- The Missouri Head Injury Advisory Council sponsored its third annual statewide conference, "Head Injury: From Injury to Independence".

- The Missouri Head Injury Advisory Council chairman established a Task Force on Service Delivery Systems Recommendations to study the need for a division of head injury within state government.

- The St. Louis State Hospital operated by the Missouri Department of Mental Health, and the Missouri Rehabilitation Center, operated by the Missouri Department of Health, began the process of developing an inter-agency agreement regarding clients served by each facility, referrals, and coordination of services.

- The Missouri General Assembly appropriated state funding for the first time to the Missouri Department of Health to expand prevention programs modeled after the Missouri Head and Spinal Cord Injury Prevention Project conducted by the University of Missouri-Columbia.

1989

- The Missouri Department of Health received two contracts from the National Highway Traffic Safety Administration to link five data files to track patients from the scene of the accident to after hospital discharge and to study costs of injury. The department is to link five computerized data files: Statewide Trafficway

Accident Reporting System (STARS), Ambulance Reporting System, Head and Spinal Cord Injury Registry, Death Certificate, and Hospital Discharge. The STARS is administered by the State Highway Patrol and the other four are administered by the Department of Health, Division of Health Resources. The second contract calls for researching costs associated with injuries (pre-hospital, hospital, and after discharge).

- The Missouri Head Injury Advisory Council sponsored its fourth annual conference, "Building Service Delivery Systems for the 90's."

- State legislation was introduced for the first time calling for the establishment of a division of head injury and rehabilitation in the Missouri Department of Health. The bill passed the Senate and fell short by three votes from passing the House of Representatives.

- The Missouri General Assembly appropriated state funding to the Missouri Rehabilitation Center for four beds for persons with head injury with severe behavior problems.

- The Missouri General Assembly appropriated state funding to the Missouri Office of Administration, Division of General Services for long-term support services to enable persons with head injury to participate in the federal supported work program administered by the Missouri Division of Vocational Rehabilitation. Four supported work projects were initially started.

- The Missouri General Assembly passed legislation creating the Missouri Family Trust Fund to allow families and friends of persons with mental or physical disabilities, including head injury, to establish a means for providing for the special needs of persons with disabilities without endangering the person's eligibility for government assistance.

- The Centers for Disease Control (CDC) approved a four year grant to the Missouri Department of Health for the department to establish a state injury control program.

- The Missouri Head Injury Advisory Council, the Division of Vocational Rehabilitation, and the University of Missouri-Columbia sponsored an in-service training workshop on vocational and supported work issues for community providers.

1990

- The Missouri Office of Administration, Division of Purchasing on behalf of the Division General Services awarded four more state contracts to community agencies for long-term support services for persons with head injury to enable participation in the supported employment program administered by the Missouri Division of Vocational Rehabilitation and to maintain employment following completion of job assessment, job training, and job placement initially funded by the Division of Vocational Rehabilitation.

- The Missouri Head Injury Advisory Council FY'89 Annual Report published in February contained for the first time data from the Missouri Head and Spinal Cord Injury Registry. The data was collected during the 1988 calendar year.

- The Missouri Head Injury Advisory Council directed its Program Planning and Development Committee, Subcommittee on Rehabilitation and Long-Term Care to develop recommendations for expanding in-home care and nursing care to persons with head injury to the Missouri Division of Medical Services.

- The Missouri Head Injury Advisory Council directed its Program Planning and Development Committee, Subcommittee on Community Residential/Employment and Support Services to develop a plan for developing residential services for persons with head injury.

- The Missouri Department of Health appointed a State Injury Control Advisory Committee to work with the State Injury Control Program established by the grant from Centers for Disease Control.

- At the recommendation of the Missouri Head Injury Advisory Council a Request for Proposal was issued by the Missouri Division of Purchasing for purposes of developing an informational handbook for families and survivors of head injury. The handbook (10,000 copies) was produced by the Missouri Head Injury Foundation with assistance from the council.

- The Missouri General Assembly passed legislation expanding the state definition for developmental disabilities for the Division of Mental Retardation and Developmental Disabilities to include head injury and to change the age of onset from 18 to 22 .

- For the second year legislation was introduced in the Missouri General Assembly calling for the establishment of a division of head injury rehabilitation in the Missouri Department of Health. The legislation passed the Missouri Senate, but died on the House calendar.

- The Missouri General Assembly passed legislation establishing a high risk insurance pool for persons who are unable to obtain health insurance because they are considered high risk due to pre-existing conditions.

- The Missouri Head Injury Advisory Council sponsored its fifth annual statewide conference, "Entering the Decade of the Brain: Head Injury Research, Rehabilitation & Re-entry".

- At the recommendation of the Missouri Head Injury Advisory Council the Missouri Division of Health Resources, as a pilot project, sent an informational letter to persons and families reported by the Missouri Head and Spinal Cord Injury Registry.

- The Missouri Head Injury Advisory Council sponsored a workshop on housing options for survivors of head injury November 1990.

- The Missouri Division of the American Trauma Society sponsored The First Trauma Systems Conference September 1990.

- The Missouri Department of Health, State Injury Control Program sponsored statewide workshops on E-coding (coding for external cause of injury).

- Congress passed P.L. 101-476, Individuals with Disabilities Education Act (IDEA), which added traumatic brain injury as a separate category within the definition of disabilities and requires school districts to report the number of students with traumatic brain injuries.

1991

- The Missouri Division of Mental Retardation and Developmental Disabilities Director appointed a committee to determine eligibility in accordance with the new state definition for developmental disabilities for division services and appointed a member of the Missouri Head Injury Advisory Council to the committee.

- The St. Louis Productive Living Board and the Missouri Head Injury Advisory Council sponsored an in-service training workshop on head injury for St. Louis area agencies serving persons with disabilities.

- The Missouri General Assembly passed legislation strengthening the DWI (Driving While Intoxicated) law to comply with federal model standards.

- The Missouri General Assembly passed legislation establishing a Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services in the Department of Health. The Missouri Head Injury Advisory Council will continue to advise all state agencies on policies affecting persons with head injury and their families and continue to be housed in the Office of Administration.

- The Missouri Head Injury Advisory Council sponsored its sixth annual statewide conference, "Head Injury: Challenges of the New Decade."

- The Missouri Planning Council for Developmental Disabilities with assistance from the Missouri Head Injury Advisory Council and other agencies hosted a teleconference in four locations on Supported Employment and Persons with Traumatic Brain Injury presented by SET NET, Virginia Commonwealth Universities—Rehabilitation, Research and Training Center, September 25.

- The Missouri Department of Health received a three year grant from Centers for Disease Control to prevent primary and secondary disabilities. The grant provides funding for a case manager to assist in preventing secondary disabilities relating to head injury and a component to evaluate the head and spinal cord injury registry.

- At the recommendation of the Missouri Head Injury Advisory Council the informational handbook, *Missouri Head Injury Guide for Survivors, Families, and Caregivers*, was updated and reprinted (6,000 copies).

- The Missouri Department of Elementary and Secondary Education appointed an advisory committee to develop a definition and a set of eligibility criteria to be used by public school districts to identify those children with traumatic brain injury who may be eligible for special education and related services.

- The Missouri Department of Health received a three-year grant from Centers for Disease Control to prevent primary and secondary disabilities, which provided funding for central office staff to develop a plan for case management and to evaluate the head and spinal cord injury registry.

1992

- The Governor appointed the Governor's Alliance for Prevention of Disabilities, which included representation from the Missouri Head Injury Advisory Council, to advise the Office of Prevention of Disabilities.

- The Missouri Rehabilitation Center opened a substance abuse program, C-STAR (Comprehensive Substance Treatment and Rehabilitation) for persons with head injury which is certified and funded by the Missouri Division of Alcohol and Drug Abuse and the Medicaid program administered by the Division of Medical Services. The Missouri Rehabilitation Center staff trained three community C-STAR programs in head injury in order to provide community follow-up and support.

- The Missouri Head Injury Advisory Council sponsored its seventh annual conference, "Head Injury: Current Trends & Future Applications for Education, Rehabilitation and Community Reintegration."

- State funding for community head injury services was transferred from the Missouri Office of Administration to the Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services July 1, 1992.

- The Missouri General Assembly appropriated state funding to the Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services for service coordinators/case managers for FY'93.

- The Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services convened a service coordination task force co-chaired by the Missouri Head Injury Advisory Council to make recommendations for a service coordination/case management system.

- The Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services in cooperation with the Missouri Head Injury Advisory Council held public hearings on the proposed service coordination plan.

- As the result of efforts by the National Head Injury Foundation, federal legislation known as the TBI Act, was introduced to authorize funding for research, prevention, demonstration projects and state advisory councils.

- Missouri obtained 70% safety belt usage in passenger vehicles.

1993

- The National Conference of State Legislatures developed a publication, *What State Legislators Need to Know About Traumatic Brain Injury*, which referenced the Missouri Head Injury Advisory Council and several Missouri initiatives.

- The Missouri Head Injury Advisory Council, Missouri Hospital Association, Missouri Division of Aging and the Missouri Department of Health co-sponsored six regional workshops for hospital discharge planners, agency social workers, case managers and other professionals focusing on head injury service needs and services available locally.

- The Governor's Alliance on Prevention of Disabilities hosted a State Strategic Planning Conference to plan for the prevention of primary and secondary disabilities.

- The Missouri General Assembly appropriated funding to the Missouri Department of Health for 10 community intermediate care facility beds for persons with head injury to be funded under the Medicaid program.

- The Missouri General Assembly passed legislation establishing the Missouri Interagency Council on Transition to promote services to assist youth with disabilities in becoming employed after completion of school. Council members are to represent state officials, professionals, consumers and advisory councils, including the chairman of the Missouri Head Injury Advisory Council.

- The Missouri Head Injury Advisory Council sponsored its eighth annual conference, "Head Injury: Working together for Solutions to Challenging Issues."

- The Missouri Department of Mental Health appointed a Committee on Strategies for Enhancing Systems to Serve Families and Consumers, which focused on head injury, as a working group of the Reinventing Government Committee.

- The Missouri Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services hired two case managers/service coordinators and began implementing the service coordination task force recommendations and interagency agreements.

- The *Missouri Head Injury Guide for Survivors, Families and Caregivers*, was revised for the third time and reprinted by the Missouri Department of Health and the Missouri Office of Administration (2,500 copies).

- The Missouri Advocates for Traffic Safety was organized to promote traffic safety legislation and policies in order to reduce fatalities and injuries

1994

- The Missouri Head Injury Advisory Council convened an Ad Hoc Committee on Pediatric Head Injury and issued a report containing recommendations for improving the service delivery system for children with traumatic head injuries.

- The Missouri General Assembly passed legislation strengthening the child safety seat law by requiring child safety seats in both the front and back seat of a motor vehicle for children under 4.

- The Missouri Head Injury Advisory Council sponsored its ninth annual conference, " Head Injury: Meeting Needs in Response to Changing Times."

- The Missouri Head Injury Advisory Council published the *Biennial Report and Action Plan for Services for FY'91-92.*

- The Missouri Department of Health, Division of Health Resources published its first annual report of the Head and Spinal Cord Injury Registry using data from 1992.

- The June issue of *The Journal of Head Trauma Rehabilitation* focused on public policy issues featuring the head injury programs and efforts in Missouri, Massachusetts, Minnesota and Florida.

- The *Missouri Head Injury Guide for Survivors, Families and Caregivers*, was revised for the fourth time and reprinted by the Center for Innovations in Special Education, University of Missouri, Columbia, who assumed responsibility for printing on an on-going basis, warehousing and dissemination of the booklet.

1995

- The Missouri Department of Elementary and Secondary Education, Division of special Education revised its 1983 printing of *A Parent's Guide to Special Education in Missouri* and the revision includes the new state definition for traumatic brain injury among disabilities eligible for special education services.

- The Missouri Department of Health, Office of Injury Control received two federal grants from the Centers for Disease Control and Prevention for two projects, Fire-arm Related Injury Surveillance Program and the Motor Vehicle Injury Prevention Program.

- The Missouri Division of Medical Services was one of four states selected to develop a pilot capitated Managed Care Program for persons with disabilities in mid-Missouri. The project is funded by grants from the Robert Woods Johnson Foundation and PEW Charitable Trust Fund.

- The Missouri Head Injury Advisory Council sponsored, in cooperation with the Missouri Department of Health, Office of Disability Prevention, four regional workshops on behavioral and memory issues for community providers, families and survivors. The workshops were held in Columbia, Springfield, St. Louis and Kansas City.

- The Missouri Department of Health submitted a reorganization plan which eliminated the Division of Injury Prevention, Head Injury Rehabilitation and Local Health Services and transferred the head injury service funding (state) and the head injury service coordinators to the Bureau of Special Health Care Needs, Division of Maternal, Child and Family Health. The Missouri Rehabilitation Center was transferred organizationally to the Office of Director.

- The Missouri General Assembly passed a Senate Concurrent Resolution calling for the study and possible recommendation to transfer the Missouri Rehabilitation Center to the University of Missouri-Columbia Hospitals and Clinics.

- The Missouri General Assembly passed legislation reducing the penalty for failure to wear a motorcycle helmet from a misdemeanor to an infraction with the fine set at $25, elimination of court costs and points.

- The Missouri Head Injury Advisory Council and the Missouri Head Injury Association co- sponsored their first reception for state legislators.

- The Missouri Head Injury Advisory Council held its tenth annual conference, "Head Injury: New Beginnings."

- The National Head Injury Foundation voted to change its name and that of state chapters to the Brain Injury Association.

- The Missouri Division of Mental Retardation and Developmental Disabilities designated a case manager in each of its eleven regional centers and the habilitation centers to be responsible for knowing about traumatic head injury and appropriate resources, and to coordinate services for those persons eligible for Division of Mental Retardation and Developmental Disabilities services with the Department of Health service coordinators as appropriate. The Missouri Head Injury Advisory Council, Missouri Head Injury Association, Department of Health and the Division of Mental Retardation and Developmental Disabilities provided in-service training, July 26-27, for the designated staff.

- Congress repealed the National Speed Limit.

- The National Association of State Head Injury Administrators was officially incorporated as a not-for-profit corporation in Missouri.

1996

- The Missouri Head Injury Advisory Council held its eleventh annual conference, "Head Injury: Research Practice and Policy."

- The Missouri General Assembly passed zero tolerance legislation requiring the suspension and revocation of drivers' license of minors who are stopped for driving with a .02 or more blood alcohol content.

- The Missouri General Assembly appropriated an additional $100,000 (general revenue) to the Missouri Department of Health for head injury services.

- The Missouri General Assembly passed legislation transferring the Missouri Rehabilitation Center to the University of Missouri-Columbia Hospitals and Clinics effective July 1.

- The Missouri Head Injury Advisory Council and the Brain Injury Association of Missouri hosted its second legislative breakfast.

- The Missouri Head Injury Advisory Council developed a home page on the internet.

- The Missouri Head Injury Advisory Council appointed a Task Force on Children and Youth with TBI to study and make recommendations regarding service delivery.

- President Clinton signed the TBI Act to provide for the conduct of expanded studies and the establishment of innovative programs with respect to traumatic brain injury, and for other purposes. Congress appropriated funding for state demonstration grants; to Centers for Disease Control and Prevention for surveillance projects; for research; and for a national consensus conference.

- The U.S. Department of Health and Human Services, Health Resources Services Administration, Maternal and Child Health Bureau, as the administering agency for state projects, convened a National Task Force on TBI to

develop guidelines for the RFP for state demonstration projects and program priorities.

1997

- The Missouri General Assembly passed legislation strengthening the seat belt law to include pickup trucks and to prohibit persons from riding in the open bed of a pickup trucks under certain conditions and to require persons under the age of 16 to be belted in all seating positions.

- The Missouri Head Injury Advisory Council published and distributed its report, Rating Health Care Plans in the Care of Patients with Traumatic Head Injury.

- The Missouri Head Injury Advisory Council and the Brain Injury Association of Missouri hosted its third legislative breakfast.

- The Missouri Head Injury Advisory Council held its twelfth annual conference, "Head Injury: Challenges and Opportunities for Prevention, Service Delivery, and Policy."

- The Missouri Head Injury Guide for Survivors, Families and Caregivers was revised and reprinted for the fifth time as the result of funding from the Department of Health and in cooperation with the Missouri Head Injury Advisory Council.

- In keeping with the recommendations of the 1994 Missouri Head Injury Advisory Council report, Pediatric Head Injury: Recommendations for Improving the Service Delivery in Missouri, the Department of Health in cooperation with the Missouri Head Injury Advisory Council, Brain Injury Association of Missouri, and other agencies, developed and printed resource packets (10,000) to be distributed to families at the time of hospitalization. The Head Injury Guide is included in the packets.

- The Missouri Head Injury Advisory Council, Department of Health, and Brain Injury Association of Missouri sponsored six regional workshops on head injury.

- The Missouri Planning Council for Developmental Disabilities sponsored the first state parent to parent conference, "Linking Families, Connecting Strengths", for families with members who have developmental disabilities or traumatic head injuries.

- The Missouri Department of Health was awarded a grant from Centers for Disease Control and Prevention to enhance head injury surveillance. The federal funding was made available as the result of the TBI Act.

- The U.S. Department of Health and Human Service, Health Resources Services Administration awarded the Missouri Department of Health a three year implementation grant, as the result of the TBI Act, to enhance the service delivery system. Missouri is one of seven states to receive the implementation grant which will support early identification of individuals with traumatic head injury, family mentoring, personal futures planning, strategies for crisis and behavior management, training for case managers, internet and distance learning, outcome evaluation, and the development of materials to support individuals living in the community.

- The Missouri Department of Health, Bureau of Special Health Care Needs, Head Injury Program and the Missouri Head Injury Advisory Council, convened a grant coordinating committee to plan for the grant activities.

- The Missouri Department of Health, Division of Maternal, Child and Family Health merged the Bureau of Disabilities Prevention and Office of Injury Control into one bureau.

1998

- The Missouri Head Injury Advisory Council and the Brain Injury Association of Missouri hosted its fourth annual legislative breakfast.

- The Missouri General Assembly appropriated $150,000 additional funding to the Missouri Department of Health to expand service coordination services statewide and for other services.

- The Missouri Head Injury Advisory Council conducted its 13th annual conference, "Spring Into Action".

- The Missouri Head Injury Advisory Council issued the report, "Recommendations for Meeting the Needs of Children and Youth with Traumatic Brain Injury".

- The U. S. Department of Health and Human Services, Maternal and Child Health Bureau issued a draft 5-year plan for TBI services.

- Through funding from the TBI grant, training was developed and provided to mid-Missouri case managers/ service coordinators from the University of Missouri Rehabilitation Continuing Education Program. The training included personal centered planning and follow up sessions.

- The Missouri Family Support Partner Program was developed, training was provided to support partners in the mid-Missouri Region, and agreements were established with the University of Missouri-Hospitals and Clinics and Rusk Rehabilitation to implement the program in cooperation with the Department of Health with funding from the TBI grant. Coordinators for the mid-Missouri project and the St. Louis area were hired.

- As the result of the TBI grant, a Missouri home page featuring the grant activities, information and resources was developed.

- The University of Missouri-Columbia received funding from NIDRR (National Institute on Disability and Rehabilitation Research) to establish a TBI Model System. The University of Missouri-Columbia was one of 12 projects funded in addition to the five initial model system projects funded in 1987.

- The Department of Elementary and Secondary Education, Division of Special Education and the Centers for Innovation in Special Education convened a committee to develop a training curriculum on TBI for educators.

1999

- The Missouri Head Injury Advisory Council and the Brain Injury Association of Missouri hosted its fifth annual legislative breakfast.

- The Missouri General Assembly appropriated $50,000 to the Department of Health for recreation, respite and transportation services for individuals with traumatic brain injuries.

- The Governor vetoed legislation which would have repealed the Missouri law requiring motorcycle helmets for individuals 21 and older.

- Through funding from the TBI grant, the Brain Injury Association of Missouri conducted training to support partners in the St. Louis Region and Cape Girardeau as part of the Missouri Family Support Partner Program. A coordinator was hired for the Springfield project and the Brain Injury Association of Kansas and Greater

Kansas City agreed to coordinate the project in Kansas City.

- Through funding from the TBI grant, training was provided to case managers/service coordinators from the St. Louis/eastern region, the southeast region, Kansas City and Springfield regions of the state by the University of Missouri Rehabilitation Continuing Education Program. The training included personal centered planning and follow-up sessions.

- The Missouri Head Injury Advisory Council conducted its 14th annual conference, "Head Injury: Building Systems, Services and Supports."

- The Missouri Planning Council for Developmental Disabilities held the second statewide parent to parent conference, "Linking Families, Connecting Strengths", July 9-11, in St. Louis.

- The Missouri Department of Health convened an interagency committee to meet regularly to identify service gaps among state systems and strategies for better coordination.

- The Center for Innovations in Special Education produced the educator's manual, "Educational Directions for Students with Traumatic Brain Injury," and provided training to TBI consultants for public school districts at the direction of the Missouri Department of Elementary and Secondary Education.

- The Missouri Head Injury Advisory Council committees worked with the Department of Health Head Injury Program to redefine services, program philosophy, and provider qualifications.

- The Missouri Head Injury Advisory Council hosted a meeting for providers, including the Brain Injury Association, to discuss how to develop a service delivery system to reflect person centered planning.

- The Missouri House Interim Committee on Head Injury held public hearings around the state in the fall of 1999 to study how services for individuals with traumatic brain injury should be delivered by the state.

- The Missouri Department of Health submitted a second TBI Implementation grant to the U.S. Maternal and Child Health Bureau to develop, in partnership with the council, outreach to minority communities, training and provider qualifications, and partner in policy making training. The grant was funded for one year beginning October 1, 2000.

- The Missouri Division of Medical Services submitted a Medicaid waiver to offer self-directed personal care services to individuals with disabilities. The waiver was approved and is administered by the Division of Vocational Rehabilitation and the centers for independent living.

- The National Association of State Head Injury Administrators entered into a contract with the U.S. Maternal and Child Health Bureau to develop fact sheets, speakers bureau, and a PowerPoint presentation for states to use, and web page. The Association opened an office in Columbia, Missouri.

- The Centers for Disease Control and Prevention, in its Report to Congress, included a prevalence figure of 2% of the population is living with a traumatic brain injury. This is the first time a prevalence figure has been estimated by CDC.

2000

- The Missouri Head Injury Advisory Council and the Brain Injury Association co-sponsored a stakeholders meeting to organize a legislative coalition.

- Through the TBI Implementation grant, a focus group meeting was held to discuss evaluation and outcomes for the Department of Health Head Injury Program. An evaluation report and suggestions for program evaluation is being developed by the University of Missouri-Kansas City.

- The Missouri General Assembly appropriated $131,513 to the Department of Health in the supplemental budget for the FY 2000 year; and $741,305 for additional services for FY 2001.

- In response to the Olmstead Decision the Governor signed an Executive Order creating a commission to develop a state plan for providing community options for individuals with disabilities.

- The Missouri Head Injury Advisory Council sponsored its 15th annual conference, "Head Injury: Spring into the Millennium."

- The Department of Health agreed to contract with the Central Missouri State University Safety Center to finalize the playground safety project developed by the Missouri Head Injury Advisory Council, which is to be implemented by 4-H through the University Extension, and any other interested community organization.

- The Department of Health issued a revised Provider Manual reflecting new service definitions, program outcomes, and procedures with regard to the role of service coordinators and person centered planning.

- The Missouri Head Injury Advisory Council and the Brain Injury Association of Missouri co-sponsored a workshop on public policy and advocacy September 8-9 in Columbia.

- The Brain Injury Association hosted a Resource Facilitation Summit held in Kansas City, Missouri to develop a consensus statement and operation guide for providing resource facilitation services. This project is funded by the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau.

- The National Association of State Head Injury Administrators entered into a cooperative agreement with the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau, to conduct regional forums over a five year period for state governmental agencies and to develop a comprehensive resource guide for states to assist in developing state service capacity.

- The President signed into law, October 17, HR 4365, the Children's Health Act of 2000, which included Title XII, the Traumatic Brain Injury Act of Amendments of 2000.

- The Center for Innovations for Special Education (CISE) held two training workshops on TBI for educators in November. The training is based on a training curriculum developed by CISE with assistance from the Research and Training Center on Community Reintegration of TBI, Mt. Sinai Hospital, New York, New York.

- The Missouri Department of Health contracted with the Brain Injury Association of Missouri to coordinate the activities of the Missouri Support Partner Program statewide.

2001

- The January issue of *The Journal of Head Trauma Rehabilitation* featured public policy issues and articles on state and federally administered programs.

- The Center for Innovations for Special Education (CISE) held two more training workshops on TBI (module 1) for educators.

- Through the TBI Implementation grant, the University of Missouri-Instructional Material Lab contracted with the Department of Health to develop core competencies for direct care workers and to identify training that may be available.

- Governor Holden created the Personal Independence Commission under Executive Order to monitor Missouri's implementation of Title II of the Americans with Disabilities Act (ADA), with guidance provided by the U.S. Supreme Court in *Olmstead* and subsequent cases.

- The Missouri General Assembly passed legislation lowering the BAC level for DWI to .08.

- The Missouri General Assembly passed legislation allowing Medicaid buy-in for individuals with disabilities who are employed, and to establish a housing trust fund to assist individuals with disabilities in transitioning from nursing homes/institutions to community.

- In March 2001, Congressmen James C. Greenwood (R-PA) and Bill Pascrell, Jr. (D-NJ) formed a bi-partisan Congressional Brain Injury Task Force for purposes of creating awareness about the incidence and prevalence of traumatic brain injury, resulting problems, and the need for increasing funding for array of services and supports.

- The Missouri Head Injury Advisory Council sponsored its 16th annual conference, "2001: A Head Injury Service Delivery Odyssey."

- On June 18, 2001, President Bush signed Executive Order No. 13217 on Community-Based Alternatives for Individuals with Disabilities. The Order commits the United States to community-based alternatives for individuals with disabilities and recognizes that such services advance the best interests of the United States.

- The Division of Aging, Department of Social Services, merged with the Department of Health August 28, 2001, thus creating the Missouri Department of Health and Senior Services.

- Through funding from the federal TBI grant, the handbook for caregivers, initially developed by the Brain Injury Association of Missouri and the Missouri Head Injury Advisory Council, was revised to a 5th grade reading level and printed, along with revised family packets by the Missouri Department of Health and Senior Services. The handbook was also translated into Spanish and printed.

- The Missouri Department of Health and Senior Services was awarded a one-year TBI Post Demonstration Grant from the U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau to develop a single intake form and improve data collection among the state agencies.

- The Missouri Department of Social Services, Division of Medical Services received a "Real Choice Systems Change Grant: Systems Change Grants for Community Living" from The Centers for Medicare & Medicaid Services (CMS) in keeping with a major new federal initiative to promote the design and delivery of home and community-based services that support people with a disability or long term illness to live and participate in their communities.

- The Center for Innovations for Special Education (CISE) and the Division of Special Education developed the second module, Identifying Cognitive Strengths and Weaknesses for Students with Traumatic Brain Injury, in a series of four training workshops, and held two training workshops for educators.

2002

- U.S. Department of Health and Human Services Secretary Tommy G. Thompson presented President Bush with *Delivering on the Promise: Compilation of Individual Federal Agency Report of Actions to Eliminate Barriers and Promote Community Integration* on March 25, 2002. In the report, nine federal agencies outline more than 400 specific solutions that the agencies can implement to support community living for nearly 54 million Americans living with disabilities.

- The Center for Innovations for Special Education (CISE) conducted two more workshops for educators on the second module, Identifying Cognitive Strengths and Weaknesses for Students with Traumatic Brain Injury, in a series of three training workshops.

- The Missouri General Assembly passed legislation establishing a head injury fund to be administered by the Missouri Head Injury Advisory Council for purposes of transition and integration of medical, social and educational services or activities; outreach; and short-term supports to enable individuals with traumatic head injury and their families to live in the community, including counseling and mentoring the families. The fund is to be created from a $2 surcharge on all traffic and criminal violations.

- The Missouri Head Injury Advisory Council sponsored its 17th annual conference, "Brain Injury: Promising Practices in Challenging Times."

- The Missouri Protection and Advocacy Services, Inc. received funding from the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau extend their services to individuals with traumatic brain injury. Authorization for funding for protection and advocacy services was included in the Traumatic Brain Injury Amendments of 2000.

- The Missouri Department of Health and Senior Services received notice of grant award from the U.S. Health Resources and Services Administration, Maternal and Child Health Bureau to develop early referral protocol from hospital/rehabilitation to home and to improve data linkages among the state departments beginning October 2002.

About the Missouri Head Injury Advisory Council

The Missouri Head Injury Advisory Council, which was initially created under Executive Order in 1985, was established by law in 1986. It is a 25 member council of which four members are to represent the Missouri General Assembly with the remaining 21 representing individuals with traumatic brain injury, families, professionals and state agencies administering mental health, Medicaid, health, insurance, vocational rehabilitation, special eduction, and public safety programs. The council is administratively assigned to the Missouri Office of Administration and meets bi-monthly from September through May. The council also sponsors an annual statewide conference.

In accordance with state statue the council shall be advisory and shall:

(1) Promote meetings and programs for the discussion of reducing the debilitating effects of head injuries and disseminate information in cooperation with any other department, agency or entity on the prevention, evaluation, care, treatment and rehabilitation of persons affected by head injuries;

(2) Study and review current prevention, evaluation, care, treatment and rehabilitation technologies and recommend appropriate preparation, training, retraining and distribution of manpower and resources in the provision of services to head injured persons through private and public residential facilities, day programs and other specialized services;

(3) Recommend what specific methods, means and procedures should be adopted to improve and upgrade the state's service delivery system for head injured citizens of this state;

(4) Participate in developing and disseminating criteria and standards which may be required for future funding or licensing of facilities, day programs and other specialized services for head injured persons in this state;

(5) Report annually to the commissioner of administration, the governor, and the general assembly on its activities, and on the results of its studies and the recommendations of the council.

Members:

Susan K. Orton, Chair, Family Member, Creve Coeur

Shera R. Kafka, Vice Chair, Family Member, St. Louis

John Blass, Survivor, Columbia

Terry Butler, Facility Manager, Missouri Safety Center, Central Missouri State University, Warrensburg

James W. Casey, Supervisor of Life and Health Section, Department of Insurance, Jefferson City

Donald M. Claycomb, Ph.D., President, Linn State Technical College, Linn

Sr. Sherri Coleman, Counselor, Franciscan Sisters of Mary (FSM), St. Louis

Betty Council, CPC, Program Relations Manager, Missouri Department of Social Services, Division of Medical Services, Jefferson City

Melinda K. Elmore, Director of Policy and Training, Missouri Department of Mental Health, Division of Mental Retardation and Developmental Disabilities, Jefferson City

Bradley D. Freeman, M.D., Washington University School of Medicine, Department of Surgery, St. Louis

Billie Sue Graves, Head Injury Services Coordinator, Perry County Health Department and Family Member, Perryville

George R. Holske, President, Metro Business College, Eureka

Stephen A. Jordan, Ph.D., Psychologist, St. Francis Medical Center, Cape Girardeau

Douglas E. Mitchell, Owner and President, Legal Investigative Services, Inc., Warrensburg

Paula Nickelson, Deputy Director, Missouri Deparment of Health and Senior Services, Division of Maternal, Child and Family Health, Jefferson City

Mary L. Richter, Family Member, Jefferson City

Joyce F. Shaul, Director, Missouri Department of Public Safety, Division of Highway Safety, Jefferson City

Charles P. Smith, Director of Programs, SSM Rehab, St. Louis

Lynne P. Unnerstall, Family Member, Washington

Ron Vessell, Assistant Commissioner, Missouri Department of Elementary and Secondary Education, Division of Special Education

Senator Morris Westfall, Missouri Senate, Halfway

Susan L. Vaughn, Director

Erika E. Gillis, Assistant